

CONSERVATION DESIGN FORUM

Landscape Architecture • Community Planning • Ecological Restoration • Resource Management



First Year Restoration Monitoring Report for the BLACKWELL LANDFILL PRAIRIE RESTORATION

Warrenville, Illinois

Prepared for:

Montgomery Watson Harza
27755 Diehl Road
Suite 300
Warrenville, Illinois 60555

EPA Region 5 Records Ctr.



228945

January 2002



MWH

MONTGOMERY WATSON HARZA

January 28, 2002

Timothy J. Prendiville
Remedial Project Manager
United States Environmental Protection Agency, Region 5
Mail Code SR-J6
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: First Year Prairie Restoration Monitoring Report
Blackwell Forest Preserve Landfill Site

Dear Mr. Prendiville:

On behalf of the Forest Preserve District of DuPage County (FPD), we are pleased to submit two copies of the First Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration (First Year Report). In accordance with the December 2000 Revised Phase I Restoration Plan for the Revegetation of the Blackwell Landfill (Phase I Plan), this report summarizes the progress of the restoration strategy, including the installation process from site preparation to final seeding, first year maintenance tasks, and the vegetation growth assessment using the Floristic Quality Assessment (FQA) method.

The First Year Report was prepared by Conservation Design Forum, a subcontractor to MWH that provided technical oversight during the prairie restoration activities undertaken in 2001, including the initial preparation of Blackwell Landfill, through the seed installation to restoration monitoring.

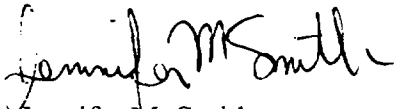
This First Year Report indicates that:


- The 2001 prairie restoration activities were conducted in accordance with the December 2000 Phase I Plan.
- The first year prairie restoration results indicate that the vegetation on Blackwell Landfill is currently weedy with a limited number of native species evident. However, as stated in this First Year Report, these results are typical for a first year installation.
- It is expected that there will be an increase in prairie species diversity in the coming years as the prairie restoration matures.

In accordance with the December 2000 Phase I Plan, MWH and FPD will continue to provide prairie restoration stewardship and will submit the Second Year Restoration Monitoring Report for the Blackwell Landfill Prairie Restoration during the first quarter of 2003. If you have questions on this restoration, please contact us at (630) 836-8900.

Sincerely,

MWH


Jennifer M. Smith
Project Engineer


Walter G. Buettner, P.E.
Supervising Engineer

cc: Rick Lanham – Illinois Environmental Protection Agency
Jerry Hartwig – Forest Preserve District of DuPage County
David Barritt – Chapman and Cutler (without attachments)

Attachments: First Year Restoration Monitoring Report of the Blackwell Landfill Prairie Restoration

JMS/WGB/jmf
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First Year Restoration Monitoring Report for the
BLACKWELL LANDFILL PRAIRIE RESTORATION

Warrenville, Illinois

Prepared for:

Montgomery Watson Harza
27755 Diehl Road
Suite 300
Warrenville, Illinois 60555

January 2002

Conservation Design Forum
Project No. 00005.00

Prepared by:

Kenneth Johnson

Kenneth C. Johnson
Botanist/Restoration Ecologist
Principal of Ecological Services

Date: 25 JAN 02

Reviewed by:

Gerould Wilhelm

Gerould S. Wilhelm, Ph.D.
Director of Ecological Services
Senior Partner

Date: 25 JAN 02

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EXECUTIVE SUMMARY

- This report summarizes the restoration activities that have occurred during the first year of prairie creation at Blackwell Landfill, and presents the results of first year vegetation monitoring.
- The prairie installation process was conducted in accordance with an approved restoration plan and contractor bid package.
- As is typical of native landscapes in their early stages of restoration, weeds dominated the prairie in this first year. With proper management over the next several years, the landscape should mature and improve in terms of native species composition and diversity.
- The results of the vegetation monitoring indicate that the prairie installation is performing as expected for a first year restoration. The slopes of the landfill are stable and have more native species composition than before the restoration efforts were initiated.

INTRODUCTION

In October of 2000, a *Phase 1 Restoration Plan* was prepared by Montgomery Watson Harza (MWH) and Conservation Design Forum (CDF) outlining a strategy for native landscape creation across the slopes of a landfill at the Roy C. Blackwell Forest Preserve. In summary, initial restoration activities were to include the removal of woody vegetation on selected areas of the landfill and the installation of prairie seed.

PROJECT SITE LOCATION AND PURPOSE

As depicted on EXHIBIT A – PROJECT SITE LOCATION, Blackwell Landfill is located north of Butterfield Road (Route 56), between Batavia Road and Winfield Road, in Warrenville, DuPage County, Illinois (SW1/4, Section 26, T39N, R9E). The site is owned and operated by the Forest Preserve District of DuPage County, and as detailed on EXHIBIT B – BLACKWELL LANDFILL PRAIRIE RESTORATION, the project area includes most of the slopes across the landfill at the forest preserve.

The purpose of restoration monitoring at the Blackwell Landfill site is two-fold. First, restoration monitoring is a fundamental component to all *de novo* (“from scratch”) native landscape creations in order to assess the vegetation development from year to year and make recommendations as to proper land management. Another important purpose of the monitoring at this site is to provide data to the U.S. Environmental Protection Agency regarding the development of the native landscape across the landfill as outlined in the approved restoration plan.

PROJECT SUMMARY AND RESTORATION ACTIVITIES

In February of 2001, MW and CDF prepared a bid package to implement the Phase I restoration. The following is a bulleted summary of the installation and first-year maintenance activities that have occurred. All of these were completed in accordance with the *Phase 1 Restoration Plan*.

- ▶ In March, the installation and first-year maintenance contract was awarded to McGinty Brothers, Inc.
- ▶ Miscellaneous tree clearing was completed in April as supervised by MW.
- ▶ Herbicide was sprayed across the project area on May 1st – 3rd.
- ▶ Re-spraying of specific areas and mowing was completed on May 15th and 16th.
- ▶ Seeding was conducted during May 29th – June 14th. In general, most of the area was drill seeded, and hand broadcasting occurred only on the steep slopes where a tractor could not be driven. The last areas seeded were the slopes on the east side of the site where soil had been stockpiled— these areas were graded in June just prior to seeding and the seed was applied both via drilling and via a hydroseeder with slurry mulch.
- ▶ The project area was watered on July 2nd – 6th, and on July 9th, using a water truck and high-pressure hose.
- ▶ A second watering occurred from July 13th – 17th.
- ▶ A third watering occurred from August 1st – 6th.
- ▶ From August 8th – 13th, most areas of the site were mowed and miscellaneous debris was removed.
- ▶ Mowing was completed on the steep slopes on September 11th.
- ▶ The restoration monitoring event took place on September 27th.

More detailed information on these activities can be found in a series of field reports found in Appendix I. In general, all of these tasks followed the approved restoration plan and bid package to our satisfaction. We feel that the landscape was installed properly and that adequate attention was given to necessary post-planting maintenance.

MONITORING METHODOLOGY

Although there are many ways to monitor *de novo* native landscape restorations and measure their performance, the approach presented herein emphasizes vegetation development and floristic quality assessment (FQA) sampling methodology. An important aspect of native landscape restoration is determining to what extent natural floristic quality is developing. This is accomplished via quantitative sampling along permanent transect lines established within representative portions of the project area. A general plant inventory of the restoration area is taken as well to record broader, qualitative data. These sampling protocols are repeated every year so that trends in floristic development can be monitored over time.

A useful method for determining the floristic quality of an area is through an analysis of the conservatism and diversity of species appearing in a plant inventory. Conservatism represents the degree to which an experienced field botanist has confidence that a given species is representative of a high-quality, remnant habitat (i.e., those natural areas with intact presettlement structure, composition, and processes). Native plants of a given region exhibit an observable range of conservatism. Therefore, each native species can be assigned a *coefficient of conservatism* (C value) ranging from 0 to 10, "weedy to conservative," reflecting this disposition.

The Mean C is the average coefficient of conservatism for a site. The floristic quality index (FQI) is a statistic derived by multiplying Mean C by the square root of the number of species inventoried. In general, site inventories with FQI values less than 20 are degraded or derelict plant communities, or are very small habitat remnants. Site inventories with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When site inventories have FQI values in the middle thirties or higher, and/or have Mean C values of 3.4 or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Site inventories with FQI values in the middle forties and higher are often also statewide significant natural areas.

As management and time cause changes to take place, Mean C and FQI values will reflect the extent to which conservative species are being recruited and the floristic quality is improving. If an inventoried site has a large proportion of conservative plants, the Mean C is higher; in a degraded site, the Mean C will be lower. The presence of a large proportion of adventive (i.e., non-native) and non-conservative native species suggest that an area is degraded. The Mean C and FQI values for a sampling transect can be figured for the transect as a whole, and for the average quadrat.

Another useful measurement that is important in the evaluation of a *de novo* native landscape restoration is that of the wetness value (W). Each species has a designated indicator category that defines the estimated probability of its occurring in a wetland. Plants are designated as *Obligate Wetland* (OBL = -5), *Facultative Wetland* (FACW = -3), *Facultative* (FAC = 0), *Facultative Upland* (FACU = 3), and *Obligate Upland* (UPL = 5). For about 20% of our flora, "+" or "-" signs have been attached to the three *Facultative* categories to express the exaggerated tendencies of those species.

The “+” sign denotes that the species generally has a greater estimated probability of occurring in wetlands; the “-” sign means that it generally has a lesser estimated probability of occurring in wetlands. This information—for example, the average wetness value of an inventory—is useful in understanding site hydrology conditions and can be used to guide management decisions.

Four (4) straight-line transects were established across the Blackwell Landfill prairie restoration area. Based upon our familiarity with the project site and involvement with the recent prairie installation, it was determined that the locations and numbers of these transects accurately represent the study area. A description of each transect is as follows, and their locations are depicted on Exhibit B.

Transect 1 is located at vault cover “DV 10” in the northwestern portion of the site and is oriented 0° north. The first quadrat is placed 10 paces north of the vault cover.

Transect 2 is located at vault cover “DV 17” in the western portion of the site and is oriented 90° east. The first quadrat is placed 5 paces east of the vault cover.

Transect 3 is located at vault cover “DV 13” in the southeastern portion of the site and is oriented 180° west. The first quadrat is placed 5 paces west of the vault cover.

Transect 4 is located at vault cover “DV 18” in the northeastern portion of the site and is oriented 45° northeast. The first quadrat is placed 5 paces northeast of the vault cover.

A 0.25m² quadrat was placed at 10-pace intervals along each transect line until 10 quadrats were sampled. The vegetation within each quadrat was identified and given a relative cover/abundance number from 1 to 5 as follows.

COVER/ABUNDANCE NO.	APPROXIMATE COVER
1	1 to 5 plants present
2	5% to 25% cover
3	25% to 75% cover
4	common/scattered throughout
5	ubiquitous

The cover/abundance data is used to determine the relative importance value (RIV) for each species recorded along the transect. The RIV of each species is calculated by summing the relative frequency and relative cover and dividing by 2. This and other information gathered via transect sampling offers important quantitative data used to interpret the development of the native landscape. Lastly, a compass was used to stay on the correct directional bearing and photographs were taken at the beginning of each transect in order to document the existing conditions.

RESULTS AND DISCUSSION

VEGETATION SAMPLING

The results of the plant inventories and transect sampling are presented below. The vegetation sampling occurred on September 27th, and was performed by Kenneth Johnson of CDF. Weather conditions during the monitoring event was partly sunny, with air temperatures around 65° Fahrenheit, so sampling conditions were optimal. Photographs taken during the monitoring event

as well as earlier in the year documenting the landscape installation and maintenance process are included at the back of this report.

General Plant Inventory and FQA Data

The results of the plant inventory and associated FQA data for the prairie restoration are presented in Appendix II. The table below summarizes the number of native species (NS), along with the percent that these native plants comprise of all species recorded during the monitoring event (%TS); the native Mean C; and, the native FQI. For comparative purposes, these same data are presented from a pre-restoration inventory of the landfill slopes that was conducted in 1999 as part of a vegetation study of the site.

INVENTORY-FQA DATA SUMMARY			
Year	NS (%TS)	Mean C	FQI
2001	54 (48%)	1.8	13
1999	37 (44%)	1.8	11

In general, the most frequently encountered species noted during the meander/inventory were common orach, crown vetch, smooth and hairy crab grass, barnyard grass, and green foxtail. Other relatively common species included velvetleaf, common ragweed, Canada thistle, spotted creeping spurge, flower-of-an-hour, knee grass, common knotweed, black-eyed Susan, and giant foxtail.

These results are typical of a first-year installation. A more definitive assessment of the installation success cannot be made until the landscape has had 3 full growing seasons to mature. However, the data do show that the recently installed native landscape has resulted in an increase in plant diversity when compared to the 1999 pre-restoration conditions. With proper management the native plant diversity should continue to improve as the landscape matures.

Transect Sampling and FQA Data

The results of the 4 straight-line transects are presented in Appendix III. This sampling data will help to quantify the vegetation changes that will occur here over the next several years as the native landscape becomes established.

The table below presents a summary of the data collected for each transect. The aggregate transect data are presented separately from the average quadrat data. The number of native taxa (NT) is given, along with the percent that these species comprise of all taxa recorded along the transect (%TT); the native Mean C; and the native FQI. The last column compares of the relative importance values of native versus adventive species sampled along each transect (RIV NT/AD).

TRANSECT	TRANSECT DATA SUMMARY			QUADRAT DATA SUMMARY			RIV NT/AD
	NT (%TT)	MEAN C	FQI	NT	MEAN C	FQI	
<u>Transect 1</u>	6 (38%)	2.5	6	1.7	0.7	1	36/64
<u>Transect 2</u>	9 (36%)	3.6	11	0.9	1.0	2	18/82
<u>Transect 3</u>	8 (36%)	0.6	1.8	2.1	0.2	<1	43/57
<u>Transect 4</u>	8 (38%)	0.6	1.8	2.4	0.1	<1	37/63

The prairie installation in the areas of Transects 1 and 2 involved seeding into existing vegetation cover that was recently herbicided, whereas the installation in the areas of Transects 3 and 4 involved seeding into barren ground on recently filled soil. It is premature to attribute germination success/failure for these different conditions on these data. The success of prairie establishment on these areas will be better understood with comparisons to future monitoring results.

Seeded Species Recruitment

The table below lists the species seeded as part of the prairie installation in May and June of 2001. The C value for each species are given, followed by its wetness value (W). The 4 columns to the right are data from the 4 transects indicating the relative importance value of any seeded species noted during the monitoring event in September. Appendix IV includes copies of the packing slips from the 2 nurseries that supplied the seed, and the FQA of the seeded matrix.

SPECIES	C	W	RELATIVE IMPORTANCE VALUE			
			TRANSECT 1	TRANSECT 2	TRANSECT 3	TRANSECT 4
<i>Andropogon gerardii</i>	5	1	-	-	-	-
<i>Andropogon scoparius</i>	5	4	-	-	-	-
<i>Aquilegia canadensis</i>	6	1	-	-	-	-
<i>Aster azureus</i>	8	5	-	-	-	-
<i>Aster ericoides</i>	5	4	-	-	-	-
<i>Aster laevis</i>	9	5	-	-	-	-
<i>Aster novae-angliae</i>	4	-3	-	-	-	-
<i>Astragalus canadensis</i>	10	5	-	-	-	-
<i>Baptisia leucantha</i>	8	2	-	-	-	-
<i>Bouteloua curtipendula</i>	8	5	1.5	2.7	-	-
<i>Coreopsis palmata</i>	6	5	-	-	-	-
<i>Coreopsis tripteris</i>	5	0	-	-	-	-
<i>Desmodium canadense</i>	4	1	-	-	-	-
<i>Echinacea purpurea</i>	3	5	1.5	2.1	-	-
<i>Elymus canadensis</i>	4	1	-	-	-	-
<i>Eryngium yuccifolium</i>	9	-1	-	-	-	-
<i>Helianthus mollis</i>	9	5	-	-	-	-
<i>Helianthus rigidus</i>	8	5	-	-	-	-
<i>Heliopsis helianthoides</i>	5	5	-	1.6	-	-
<i>Lespedeza capitata</i>	4	3	-	-	-	-
<i>Liatris spicata</i>	6	0	-	-	-	-
<i>Monarda fistulosa</i>	4	3	-	1.6	-	1.1
<i>Panicum virgatum</i>	5	-1	-	-	-	-
<i>Parthenium integrifolium</i>	8	5	-	-	-	-
<i>Penstemon digitalis</i>	4	1	-	-	-	-
<i>Petalostemum purpureum</i>	9	5	-	-	-	-
<i>Physostegia virginiana</i>	6	-5	-	-	-	-

SPECIES	C	W	RELATIVE IMPORTANCE VALUE			
			TRANSECT 1	TRANSECT 2	TRANSECT 3	TRANSECT 4
<i>Pycnanthemum virginianum</i>	5	-4	-	-	-	-
<i>Ratibida pinnata</i>	4	5	-	-	-	-
<i>Rudbeckia hirta</i>	1	3	3.5	-	-	1.1
<i>Silphium integrifolium</i>	5	5	-	-	-	-
<i>Silphium laciniatum</i>	5	5	-	-	-	-
<i>Silphium terebinthinaceum</i>	5	3	-	-	-	-
<i>Solidago graminifolia</i>	4	-2	-	-	-	-
<i>Solidago nemoralis</i>	4	5	-	-	-	-
<i>Solidago rigida</i>	4	4	-	-	-	-
<i>Sorghastrum nutans</i>	5	2	-	1.6	-	-

The Mean C and Mean W values of the seeded native species and each transect is summarized in the table below.

AREA	NATIVE SPECIES	MEAN C	MEAN W
2001 Seeding	37	5.6	2.5
Transect 1	3	4.0	4.3
Transect 2	5	5.0	4.0
Transect 3	0	0	0
Transect 4	2	2.5	2.0

Yearly restoration monitoring should be compared to these data in order to show trends in the establishment of the intended native landscape. With time and proper land stewardship, there should be an increase in native species recruitment and quality across all areas of the restoration site. The erratic Mean C values from the transect data are not unexpected in this initial sampling event. In Transects 1 and 2, only a few native species were recorded, one of which is side-oats grama, which has a C value of 8.

Overall, these results are not unusual for a newly-seeded prairie landscape. It is likely that many of the seeds did not germinate in this first year, and may not be evident for a few years to come. As stated above, with proper management and over time there should be a yearly increase in the presence of native species.

GENERAL OBSERVATIONS AND SITE CONDITIONS

The following bulleted items summarize our observations noted during the monitoring event.

- Overall, the data presented herein are typical of newly installed landscapes. Therefore, it appears that the installation and first-year management activities have been successful.
- A few small piles of rocks/stumps were seen scattered on the south and west slopes. These likely represent debris that was not removed during the site preparation and maintenance activities.
- Although a few erosion rills have formed on the slopes, the site has good vegetation cover in general.

SUMMARY

As has been presented in this report, a *de novo* prairie creation was installed on the slopes of a landfill at the Roy C. Blackwell Forest Preserve. The prairie installation process and follow up maintenance was conducted in accordance with an approved restoration plan. As is typical of native landscapes in their early stages of restoration, weeds dominated the prairie. The results of the vegetation monitoring indicate that the prairie installation is performing as expected for a first year restoration. The slopes of the landfill are stable and have more native species composition than before the restoration efforts were initiated. With proper management over the next several years, the prairie should mature and improve in terms of native species composition and diversity.

GENERAL REFERENCES

The following sources were referenced in completing the final draft of this document.

Montgomery Watson & Conservation Design Forum. 2001. Contractor bid package for phase 1 prairie landscape installation and post-planting maintenance. Prepared for the Forest Preserve District of DuPage County, Illinois.

Montgomery Watson & Conservation Design Forum. 2000. Phase 1 restoration plan for the revegetation of the blackwell landfill. Prepared for the Forest Preserve District of DuPage County, Illinois.

Swink, F. and G. Wilhelm. 1994. Plants of the Chicago Region, 4th edition. Indiana Academy of Science, Indianapolis, Indiana.

Taft, J., G. Wilhelm, D. Ladd, and L. Masters. 1997. Floristic Quality Assessment for Vegetation in Illinois: A Method for Assessing Vegetation Integrity. *Erigenia*: 14, pp. 3-95.

Wilhelm, G. and L. Masters. 1999. Floristic Quality Assessment and Computer Applications. Conservation Research Institute. Elmhurst, Illinois.

APPENDICES

APPENDIX I

2001 FIELD REPORTS OF PRAIRIE INSTALLATION

The following 10 field reports were composed by CDF staff as part of contractor oversight during the site preparation and maintenance activities for the Blackwell Landfill prairie restoration.



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FIELD REPORT

DATE OF REPORT: 11 May 2001
DATE OF OBSERVATION: 10 May 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Ken Johnson – Conservation Design Forum
TO: Lonny Boring – Montgomery Watson
CC: file

836-8959

! FAX
↙

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred yesterday with Lonny Boring and Walter Buettner of Montgomery Watson, Jim Saffrin of McGinty Brothers, and myself.

- 1) The herbicide applications that occurred on May 1 through 3 show signs of vegetation kill across most areas of the project area.
- 2) Soil and fill material is still being brought to a portion of the site, and it appears that these areas may not be ready for the imminent site preparation and seed installation.

The following bulleted items outline several issues.

- It was discussed with all parties that on Tuesday, May 15th, McGinty staff will begin the mowing and second herbicide application. All areas of the slopes will need to be mowed with the flail mower, except where the vegetation is short and/or sparse, and on the very steep slopes where the tractor cannot be used. In conjunction with the mowing, McGinty will remove large rocks and other debris as per the bid package.
- The second herbicide application can occur immediately after the mowing. Areas to be sprayed are the green "patches" that were missed during the first application and the steep


slopes near the top of the hill. Some areas of "browned out" dead vegetation will have to be sprayed again for re-sprouting thistles and other weeds.

- Drill seeding can begin a day after the herbicide application is completed. As per the bid package, the steepest slopes where the tractor cannot be driven will need to be hand broadcast followed by raking and/or driving over the seed to ensure soil contact.
- Prior to seeding, there is one rill area that needs to be raked smooth. It is located at the end of the toboggan slope, and will need to be covered with straw after seeding to reduce erosion.

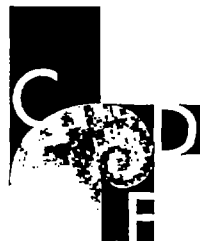
It is possible, weather permitting, that the mowing and herbiciding can be completed by the end of next week, followed by seeding during the week of May 21st.

Lastly, it seems likely that the barren soil areas will not be ready for the site preparation and seeding. If this is the case, then we will direct McGinty staff to stay out of these areas so that soil filling and truck traffic do not impact the seeding effort. If these areas are still not ready for seeding by mid June, then seeding these areas should not occur until the fall. Note that weeds in these barren soil areas will still need to be mowed 1 or 2 times during the summer, and perhaps herbicided.

Sincerely,

Ken Johnson 

Ken



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FIELD REPORT

DATE OF REPORT: 25 May 2001
DATE OF OBSERVATION: 24 May 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Ken Johnson – Conservation Design Forum
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers
CC: file

836-8959 F. !

847-438-1883 F. !

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred yesterday with Lonny Boring and Walter Buettner of Montgomery Watson, and myself.

- The re-spraying and mowing was completed on May 15th and 16th. McGinty Brothers picked up the seed from MW and is in the process of mixing it for seeding.
- Weather permitting, drill seeding will begin on Tuesday, May 29th. Every effort should be made to drill the seed into the ground across the project site. Only on the steepest slopes where the tractor cannot be driven should the seed be hand broadcast. Where hand broadcast, the seed should be driven upon by an ATV-type vehicle to "press" the seed into the ground.
- Prior to seeding, there is still a need to remove miscellaneous debris.
- Also prior to seeding, there is one rill area that needs to be raked smooth. It is located at the end of the toboggan slope, and will need to be covered with straw after seeding to reduce erosion.
- It now appears that some or perhaps all of the barren slopes where soil has been spread will be ready for seeding in the next week or so. These areas will need to be raked to repair rills that have formed. After seeding, straw will have to be spread and crimped into the ground

to reduce erosion. It is my understanding that this site prep and straw crimping is an extra service, the cost of which will be negotiated between MW and McGinty Brothers.

- CDF will work with MW to sow seed residue into flats to test for germination. We will be collecting the seed bags from McGinty Brothers on Tuesday or Wednesday of next week for this purpose.

Please let me know if you have any questions.

Sincerely,

Ken Johnson

A handwritten signature in black ink, appearing to be 'KJ' or 'Ken Johnson'.



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FIELD REPORT #1

DATE OF REPORT: 31 May 2001
DATE OF OBSERVATION: 29 May 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Hope Quayle- Conservation Design Forum
SITE CONDITIONS: Overcast and moist, windy
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Jennifer Smith and Walter Buettner of Montgomery Watson, McGinty Brothers, and myself.

- McGinty Brothers began drill seeding at approximately 11:30 am on Tuesday, May 29th. Prior to drill seeding, the mixing took place at McGinty Brothers. While at the site McGinty Brothers had 2 acres in the drill seeder at a time.
- The site was well marked with orange stakes denoting the areas to be seeded.
- On the south side of the access road there was a topsoil stockpile. Since the soil was not dispersed on the landfill surface, the seeding could not take place in this area. See the attached pictures for further clarification.
- Miscellaneous debris was apparent on the steep south slopes. Any rocks that would take two hands to move were going to be moved by McGinty Brothers before seeding. In addition, the south slopes had 3-5" ruts that could compromise the performance of the drill seeder. See the attached pictures for further clarification.
- While walking the south slopes, Walter and I found an unfinished well. This amounted to an exposed pipe. The pipe was roughly 4" diameter and exposed 3" above the soil level. See the attached pictures for further clarification.
- Another exposed pipe was observed east of the toboggan run and north of the

existing fence. The pipe was roughly 3" diameter and exposed 2" above the soil level. This pipe was seeded over without any noticable problems.

- Within the existing fence east of the toboggan run there was a depression which was noticably wet. This area was hand broadcasted.
- The rill area on the base of the toboggan hill was effectively dammed up with straw bales. This area was too wet to seed. See the attached pictures for further clarification.
- The area north of the toboggan hill was partially seeded. It was also too wet to continue.
- The DuPage County Forest Preserve installed a silt fence on the south side of the parking lot.
- The barren area south of the parking lot was too wet to seed. McGinty Brothers did seed the upper third of this area. See the attached pictures for further clarification.

Please let me know if you have any questions.

Sincerely,
Hope Quayle

The forgoing account shall be considered as accurate and confirmed unless written clarification or amendment is received in CDF's office within seven (7) calendar days of the report date.



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FIELD REPORT #2

DATE OF REPORT: 31 May 2001
DATE OF OBSERVATION: 30 May 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Hope Quayle- Conservation Design Forum
SITE CONDITIONS: Cool and windy
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Jennifer Smith and Walter Buettner of Montgomery Watson, McGinty Brothers, and myself.

- McGinty Brothers began drill seeding the northern portion of the site at approximately 10am. The area north of the toboggan hill was seeded first. Next, McGinty Brothers seeded the portion west of the toboggan hill. The wet areas at the base of the hill were raked smooth and then seeded. Following the seeding of this area, McGinty Brothers dispersed straw over the erosive gullies. Lastly, McGinty Brothers made a couple of passes with the seeder up the west side of the toboggan hill. The base of the south slope was also seeded.
- Jennifer Smith of Montgomery Watson and I performed the germination test. We planted approximately 65 different species of prairie plants in a plastic plant plug tray. The soil medium was purchased from a local nursery. Each plant was marked with the genus and species and what nursery the plant came from. Jennifer Smith recorded the four-letter code, which described the first two letters of the botanical name of each plant. Jennifer Smith took the germination flat home to water and record what rough percentage of plants will emerge.

- McGinty Brothers inquired about the dispersal of straw on the eastern portion of the site. The options for covering the area with straw were to disperse the straw freely, crimp the straw, or use a straw blanket. CDF suggested a straw blanket as it quite windy and it is important that the straw stay in place on the landfill surface. The straw blanket is the most expensive option. MW would make the recommendation after talking with the DuPage County Forest Preserve.

Please let me know if you have any questions.

Sincerely,
Hope Quayle

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FIELD REPORT #3

DATE OF REPORT: 5 June 2001
DATE OF OBSERVATION: 5 June 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Hope Quayle- Conservation Design Forum
SITE CONDITIONS: Cool and windy, rainy
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Christa Gerdes, CDF and myself.

- We went to the site to familiarize Christa with Mt. Hoy. She is a student intern with our firm who will be conducting site observations on Wednesday, June 6, and most of Thursday, June 7.
- We noticed the lack of straw cover on the barren areas on the eastern portions of the site. We were concerned as the seed has a potential to run off the side of the slopes. We observed running water from the site to the fringe of the parking lot.
- The area south of the access road was not seeded due to the stockpile of topsoil and also contributed to additional erosion problems. Water was channeling on both sides of the access road towards the base of Mt. Hoy.
- The northeast portion of the site also suffered from the rain. The gullies that were a problem prior to seeding were full of water, however, they were covered with straw.

- We looked for evidence of seeding on the steep south slopes, however, we did not see the slits from the drill seeder.

Please let me know if you have any questions.

Sincerely,

Hope Quayle

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FIELD REPORT #6

DATE OF REPORT: 6 July 2001
DATE OF OBSERVATION: 2-6 July 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Christa Gerdes- Conservation Design Forum
SITE CONDITIONS: Monday- Sunny, warm
Tuesday- Rainy in the morning
Thursday- Sunny, warm
Friday- Sunny, warm
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Jennifer Smith of Montgomery Watson and myself. Jennifer visited the site on Monday and was kept in touch with the rest of the week via phone conversations.

- On Monday morning Peter from McGinty Brothers began the watering. He was able to finish the top slopes on both sides of the access road (see sketch).
- Tuesday morning McGinty Brothers watered the top slopes of Mt. Hoy with one tank of water supplied by McGinty Brothers. They were also able to gain access to a service road that runs along the south base slope of the access road and emptied two loads (see sketch).
- Jennifer Smith of Montgomery Watson, cancelled the Tuesday watering for the day as it rained Tuesday morning. I spoke with Ken Johnson of Conservation Design Forum and

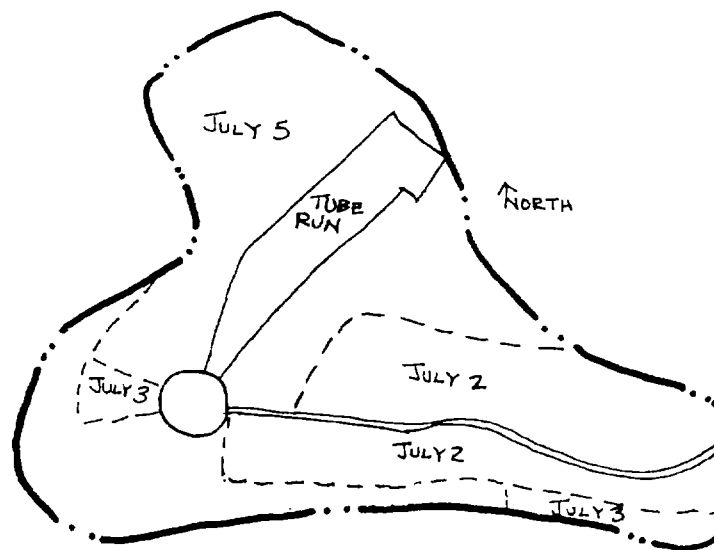
Matt Mesarch of Montgomery Watson later on Tuesday about watering on Thursday. We agreed to resume Thursday morning.

- Thursday the watering continued, the area west of the tube run was watered as well as the top of the hill (see sketch).
- Watering was scheduled for Friday in order to complete the entire site. However, McGinty brothers did not meet CDF at the site. Therefore, after speaking with Ken Johnson of Conservation Design Forum, Jim Saffrin of McGinty Brothers, and Matt Mesarch of Montgomery Watson it was decided that the watering would continue on Monday, pending weekend precipitation.

Please let me know if you have any questions.

Sincerely,

Christa Gerdes
Christa Gerdes



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FIELD REPORT #7

DATE OF REPORT: 10 July 2001
DATE OF OBSERVATION: 9 July 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Christa Gerdes- Conservation Design Forum
SITE CONDITIONS: Monday- Sunny, hot, humid
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Jennifer Smith of Montgomery Watson, Peter of McGinty Brothers, and myself.

- On Monday morning Peter from McGinty Brothers resumed watering Mt. Hoy. He was able to finish the top slopes of Mt. Hoy (see sketch).
- He finished the bottom slopes of the south side of the access road which were started the previous Tuesday (see sketch).
- Peter of McGinty Brothers finished the day by watering the bottom of the north side of the access road (see sketch).
- The lower slopes of Mt. Hoy on the west side were not able to be watered due to the severity of the slope. The truck was not able to reach these areas.
- For future scheduling, it would be best to anticipate three or three and a half days to water the prairie installation. On average, it takes 45-50 minutes to complete a round trip of filling the watering truck and dispersing the water on the site.

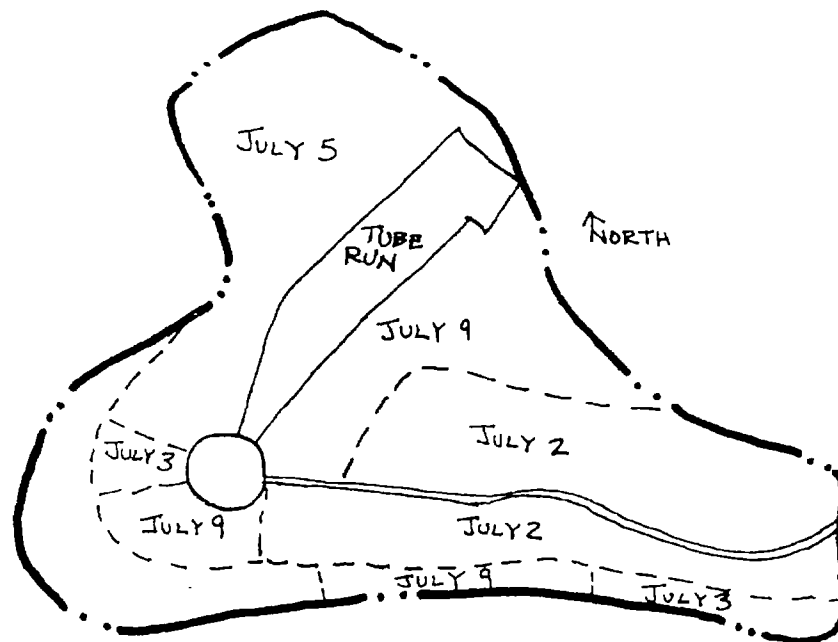
- The Forest Preserve will be holding a picnic on Wednesday, July 18, at Blackwell Forest Preserve. In an effort to keep Mt. Hoy looking nice for this event, representatives from the Environmental Services division of the Forest Preserve suggested that the project team continue watering as needed.

Please let me know if you have any questions.

Sincerely,

Christa Gerdes

Christa Gerdes



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FIELD REPORT #8

DATE OF REPORT: 18 July 2001
DATE OF OBSERVATION: 13 July 2001
16-17 July 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Christa Gerdes- Conservation Design Forum
SITE CONDITIONS: Friday- Sunny, hot
Monday- Sunny, hot, humid
Tuesday- Sunny, hot, humid, brief shower
To: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Walter Buettner and Jennifer Smith of Montgomery Watson, Peter of McGinty Brothers, and myself. Walter and Jennifer visited the site on Monday and Walter visited again on Tuesday.

- Jennifer Smith from Montgomery Watson asked that the bare areas on the south side of the access road and the bare spot at the base of the tube run be given extra attention to be sure that they are properly watered.
- On Friday morning Peter from McGinty Brothers began the watering. He was able to finish both sides of the access road along the top slopes. Peter also started to water the bottom slopes of the south side of the access road. (see sketch)
- On Monday Peter resumed watering the base slopes of the south side of the access

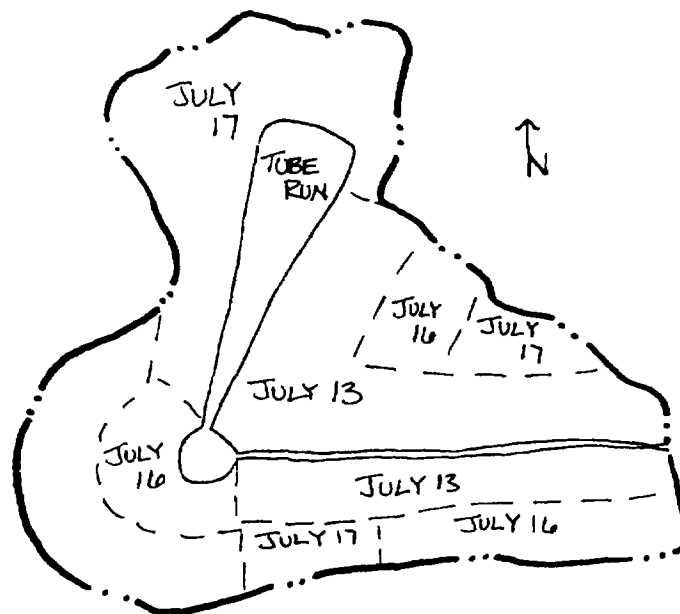
road, but due to people being on the hill we moved onto a different location. Peter was able to finish the top slopes of Mt. Hoy and started the south base slopes of the access road. (see sketch)

- Tuesday the watering was resumed on the base slopes on the north side of the access road. Peter also finished the base slopes on the south side of the access road. There was a brief shower, but not enough rain to stop the watering. The area west of the tube run was finished. (see sketch)

Please let me know if you have any questions.

Sincerely,

Christa Gerdes



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FIELD REPORT #9

DATE OF REPORT: 14 August 2001
DATE OF OBSERVATION: 1-6 August 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Christa Gerdes- Conservation Design Forum
SITE CONDITIONS: Wednesday- Sunny, hot, humid
Thursday- Cloudy and raining
Friday- Sunny, hot
Monday- Sunny, hot
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Jennifer Smith of Montgomery Watson and myself. Jennifer visited the site briefly on Wednesday.

- Peter of McGinty Brothers began watering Wednesday morning. He was able to finish both sides of the access road and most of the top slopes of Mt. Hoy. (see sketch)
- Peter from McGinty Brothers continued watering on Thursday. He finished the top slopes of Mt. Hoy and started the base slopes on the south side of the access road. (see sketch)
- Due to the rain on Thursday morning and after speaking with Jennifer of Montgomery Watson, it was decided to cancel the watering for the rest of the day considering that the weather maps showed that they rain was scheduled to continue for the rest of the

day. Jennifer would make the decision later that afternoon if the watering would be continued on Friday.

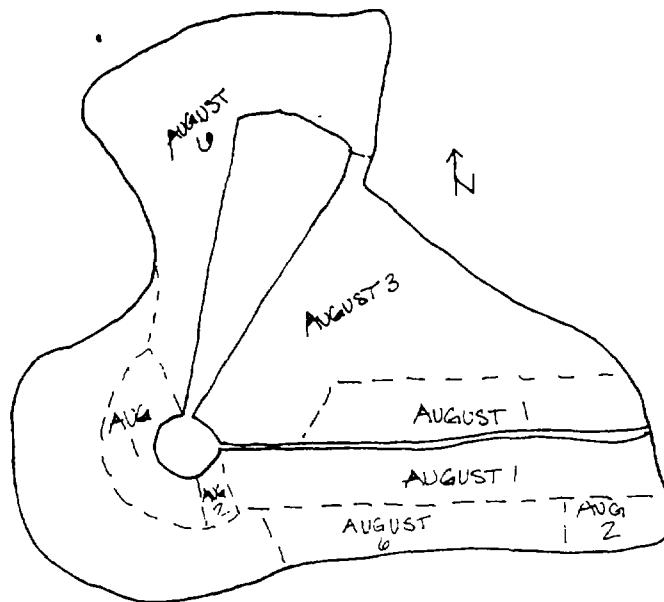
- Watering had been scheduled for Friday, but due to miscommunication McGinty Brothers did not arrive to the job site until noon. They were able to finish the base slopes of the north side of the access road. (see sketch)
- On Monday Jennifer Smith of Montgomery Watson oversaw the beginning of the watering. Peter of McGinty Brothers began the morning by doing the base of the toboggan run and to the west of the toboggan run. He also finished up the base slopes on the south side of the access road. (see sketch)

Please let me know if you have any questions.

Sincerely,

Christa Gerdes

Christa Gerdes



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FIELD REPORT #10

DATE OF REPORT: 15 August 2001
DATE OF OBSERVATION: 8-13 August 2001
PROJECT NAME/#: Blackwell Phase 1 (CDF #0005.00)
REPORT BY: Christa Gerdes- Conservation Design Forum
SITE CONDITIONS: Wednesday- Sunny, hot, humid
Thursday- Sunny, warm
Friday- Sunny, warm
Monday- Sunny, warm, breezy
TO: Walter Buettner – Montgomery Watson (MW)
Jim Saffrin – McGinty Brothers

REPORT:

The purpose of this report is to summarize site observations and follow-up discussions that occurred with Walter Buettner and Jennifer Smith of Montgomery Watson and myself.

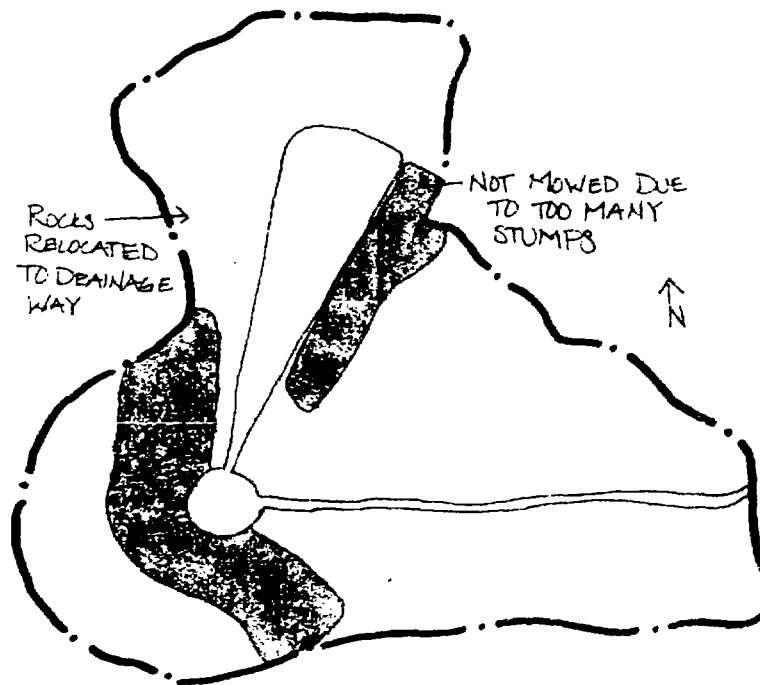
- Jennifer visited the site Thursday and Monday. Walter visited the site Friday and Monday.
- The mowing began Wednesday morning, but due to a flat tire approximately two hours of work was completed.
- Mowing began again on Thursday morning and was completed on Monday afternoon. There are a few areas that were not mowed due to the difficulty to get to them because of the slopes. See the attached sketch for the areas that were mowed. Around the trees were hand trimmed as the specifications stated.

- Rocks were also removed at this time and moved to the drainage way in the area that is west of the toboggan run. There are still some rocks that need to be removed from areas that are not easily accessible due to the severity of the slopes. See the attached sketch for where the rocks were relocated to.
- One problem that arose was the height of the mower. The specifications stated that the prairie should be mowed at 6-10 inches. The McGinty Brothers representative said that the highest that their flail mower could be set was approximately 4 inches.

Please let me know if you have any questions.

Sincerely,

Christa Gerdes
Christa Gerdes



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APPENDIX II

FLORISTIC QUALITY ASSESSMENT – GENERAL INVENTORY

The following is a summary of the plant inventory data using Wilhelm and Masters's *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region*, 1994. The inventory is separated into 2 sections as follows—

Section 1 includes three tables that summarize the inventory assessment data. The table to the left is an analysis of the floristic quality of the project area. In addition to listing the number of native species and total number of species, the mean coefficient of conservatism (MEAN C), floristic quality index (FQI), and mean wetness (MEAN W) values are presented. These are calculated once for native species only, and a second time including adventive species (W/Adventives). The two other tables summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H=herbaceous).

Section 2 includes the species inventory arranged alphabetically, with each species preceded by its database acronym and coefficient of conservatism (C=0-10, weedy to conservative), and followed by its wetness coefficient (W= -5 - +5, wet to dry), corresponding national wetland indicator status (OBL=obligate wetland species, FAC=facultative species, UPL=upland species), physiognomic group, and common name. Adventive species are written in ALL CAPS and have an asterisk (*) for their C value.

The mean C is the average coefficient of conservatism for the site. The FQI is derived by multiplying mean C by the square root of the number of species present. In general, sites with FQI values less than twenty as surveyed during the growing season are degraded or derelict plant communities, or are very small habitat remnants. Sites with FQI values in the twenties through low thirties suffer from various kinds of disturbance, but generally have potential for habitat restoration and recovery. When sites have FQI values in the middle thirties or higher, one can be confident that there is sufficient native character present for the area to be at least regionally noteworthy. Sites with indices in the middle forties and higher are often also statewide significant natural areas.

Site: Blackwell Landfill Prairie Restoration
 Locale: Warrenville - DuPage Co., IL
 Date: September 27, 2001
 By: Conservation Design Forum (Johnson)
 File: c:\FQA\studies\bwellinv2001.inv

Section 1. Summary Tables

FLORISTIC QUALITY DATA							
54 NATIVE SPECIES	Native	54	47.8%	Adventive	59	52.2%	
113 Total Species	Tree	8	7.1%	Tree	2	1.8%	
1.8 NATIVE MEAN C	Shrub	2	1.8%	Shrub	3	2.7%	
0.9 W/Adventives	W-Vine	1	0.9%	W-Vine	0	0.0%	
13.2 NATIVE FQI	H-Vine	0	0.0%	H-Vine	0	0.0%	
9.1 W/Adventives	P-Forb	15	13.3%	P-Forb	15	13.3%	
1.5 NATIVE MEAN W	B-Forb	3	2.7%	B-Forb	11	9.7%	
2.3 W/Adventives	A-Forb	13	11.5%	A-Forb	15	13.3%	
AVG: Fac. Upland (+)	P-Grass	6	5.3%	P-Grass	5	4.4%	
	A-Grass	5	4.4%	A-Grass	8	7.1%	
	P-Sedge	1	0.9%	P-Sedge	0	0.0%	
	A-Sedge	0	0.0%	A-Sedge	0	0.0%	
	Cryptogam	0	0.0%				

Section 2. Species Inventory

ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0 ABUTILON THEOPHRASTI	4 FACU-	Ad A-Forb	VELVETLEAF
ACARHO	0 Acalypha rhomboidea	3 FACU	Nt A-Forb	THREE-SEEDED MERCURY
ACESAI	0 Acer saccharinum	-3 FACW	Nt Tree	SILVER MAPLE
AGRREP	0 AGROPYRON REPENS	3 FACU	Ad P-Grass	QUACK GRASS
ALLPET	0 ALLIARIA PETIOLATA	0 FAC	Ad B-Forb	GARLIC MUSTARD
AMAHYB	0 Amaranthus hybridus	5 UPL	Nt A-Forb	GREEN AMARANTH
AMAPOW	0 AMARANTHUS POWELLII	5 UPL	Ad A-Forb	TALL AMARANTH
AMBARE	0 Ambrosia artemisiifolia elatior	3 FACU	Nt A-Forb	COMMON RAGWEED
AMBTRI	0 Ambrosia trifida	-1 FAC+	Nt A-Forb	GIANT RAGWEED
ANDGER	5 Andropogon gerardii	1 FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5 Andropogon scoparius	4 FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
ARCMIN	0 ARCTIUM MINUS	5 UPL	Ad B-Forb	COMMON BURDOCK
ASCSYR	0 Asclepias syriaca	5 UPL	Nt P-Forb	COMMON MILKWEED
ASCVER	1 Asclepias verticillata	5 UPL	Nt P-Forb	WHORLED MILKWEED
ASTNOV	4 Aster novae-angliae	-3 FACW	Nt P-Forb	NEW ENGLAND ASTER
ASTPIL	0 Aster pilosus	2 FACU+	Nt P-Forb	HAIRY ASTER
ATRPAT	0 ATRIPLEX PATULA	-2 FACW-	Ad A-Forb	COMMON ORACH
AVESAT	0 AVENA SATIVA	5 UPL	Ad A-Grass	OATS
BARVUL	0 BARBAREA VULGARIS	0 FAC	Ad B-Forb	YELLOW ROCKET
BIDFRO	1 Bidens frondosa	-3 FACW	Nt A-Forb	COMMON BEGGAR'S TICKS
BOUCUR	8 Bouteloua curtipendula	5 UPL	Nt P-Grass	SIDE-OATS GRAMA
BRANIG	0 BRASSICA NIGRA	5 UPL	Ad A-Forb	BLACK MUSTARD
BROINE	0 BROMUS INERMIS	5 UPL	Ad P-Grass	HUNGARIAN BROME
CHEALB	0 CHENOPODIUM ALBUM	1 FAC-	Ad A-Forb	LAMB'S QUARTERS
CHRELP	0 CHRYSANTHEMUM LEUCANTHEMUM PINNATIFIDUM	5 UPL	Ad P-Forb	OX-EYE DAISY
CICINT	0 CICHORIUM INTYBUS	5 UPL	Ad P-Forb	CHICORY
CIRARV	0 CIRSIUM ARVENSE	5 UPL	Ad P-Forb	FIELD THISTLE
CIRVUL	0 CIRSIUM VULGARE	4 FACU-	Ad B-Forb	BULL THISTLE
CONSEP	1 Convolvulus sepium	0 FAC	Nt P-Forb	HEDGE BINDWEED
CORRAC	1 Cornus racemosa	-2 FACW-	Nt Shrub	GRAY DOGWOOD
CORVAR	0 CORONILLA VARIA	5 UPL	Ad P-Forb	CROWN VETCH
CYPESC	0 Cyperus esculentus	-1 [FAC+]	Nt P-Sedge	FIELD NUT SEDGE
DAUCAR	0 DAUCUS CAROTA	5 UPL	Ad B-Forb	QUEEN ANNE'S LACE
DIGISC	0 DIGITARIA ISCHAEMUM	3 FACU	Ad A-Grass	SMOOTH CRAB GRASS
DIGSAS	0 DIGITARIA SANGUINALIS	3 FACU	Ad A-Grass	HAIRY CRAB GRASS
ECHPUR	3 Echinacea purpurea	5 UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ECHCRU	0 Echinochloa crusgalli	-3 FACW	Nt A-Grass	BARNYARD GRASS
ELAUMB	0 ELAEAGNUS UMBELLATA	5 UPL	Ad Shrub	AUTUMN OLIVE
ERACIL	0 ERAGROSTIS CILIANENSIS	5 UPL	Ad A-Grass	STINK GRASS
ERAPEC	0 Eragrostis pectinacea	0 FAC	Nt A-Grass	SMALL LOVE GRASS
ERASPE	3 Eragrostis spectabilis	5 UPL	Nt P-Grass	PURPLE LOVE GRASS
EREHIE	2 Erechites hieracifolia	3 FACU	Nt A-Forb	FIREWEED
ERIAN	0 Erigeron annuus	1 FAC-	Nt B-Forb	ANNUAL FLEABANE
ERICAN	0 Erigeron canadensis	1 FAC-	Nt A-Forb	HORSEWEED
ERISTR	5 Erigeron strigosus	5 [UPL]	Nt B-Forb	DAISY FLEABANE
EUPALT	0 Eupatorium altissimum	3 [FACU]	Nt P-Forb	TALL BONESET

EUPMAA	0	Euphorbia maculata	3	FACU	Nt	A-Forb	EYEBANE
EUPSUP	0	Euphorbia supina	4	FACU-	Nt	A-Forb	SPOTTED CREEPING SPURGE
FESELA	0	FESTUCA ELATIOR	2	FACU+	Ad	P-Grass	TALL FESCUE
FRAPES	1	Fraxinus pennsylvanica subintegerrima	0	FAC	Nt	Tree	GREEN ASH
GLETRI	2	Gleditsia triacanthos	0	FAC	Nt	Tree	HONEY LOCUST
HELANN	0	HELIANTHUS ANNUUS	1	FAC-	Ad	A-Forb	GARDEN SUNFLOWER
HELHEL	5	Heliopsis helianthoides	5	UPL	Nt	P-Forb	FALSE SUNFLOWER
HIBTRI	0	HIBISCUS TRIONUM	5	UPL	Ad	A-Forb	FLOWER-OF-AN-HOUR
IPOHED	0	IPOMOEA HEDERACEA	0	FAC	Ad	A-Forb	IVY-LEAVED MORNING GLORY
JUNVIC	2	Juniperus virginiana crebra	3	FACU	Nt	Tree	RED CEDAR
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad	B-Forb	PRICKLY LETTUCE
LEOCAR	0	LEONURUS CARDIACA	5	UPL	Ad	P-Forb	MOTHERWORT
LEPCAM	0	LEPIDIUM CAMPESTRE	5	UPL	Ad	B-Forb	FIELD CRESS
LINUSI	0	LINUM USITATISSIMUM	5	UPL	Ad	A-Forb	COMMON FLAX
LOLMUL	0	LOLIUM MULTIFLORUM	5	UPL	Ad	A-Grass	ITALIAN RYE GRASS
LOLPER	0	LOLIUM PERENNE	3	FACU	Ad	P-Grass	PERENNIAL RYE GRASS
LONMAA	0	LONICERA MAACKII	5	UPL	Ad	Shrub	AMUR HONEYSUCKLE
MALNEG	0	MALVA NEGLECTA	5	UPL	Ad	B-Forb	COMMON MALLOW
MEDLUP	0	MEDICAGO LUPULINA	1	FAC-	Ad	A-Forb	BLACK MEDICK
MEDSAT	0	MEDICAGO SATIVA	5	UPL	Ad	P-Forb	ALFALFA
MELALB	0	MELILOTUS ALBA	3	FACU	Ad	B-Forb	WHITE SWEET CLOVER
MONFIS	4	Monarda fistulosa	3	FACU	Nt	P-Forb	WILD BERGAMOT
NEPCAT	0	NEPETA CATARIA	1	FAC-	Ad	P-Forb	CATNIP
OENBIE	0	Oenothera biennis	3	FACU	Nt	B-Forb	COMMON EVENING PRIMROSE
OXASTR	0	Oxalis stricta	5	UPL	Nt	P-Forb	COMMON WOOD SORREL
PANCAP	1	Panicum capillare	0	FAC	Nt	A-Grass	OLD WITCH GRASS
PANDII	0	Panicum dichotomiflorum	-2	FACW-	Nt	A-Grass	KNEE GRASS
PANVIR	5	Panicum virgatum	-1	FAC+	Nt	P-Grass	SWITCH GRASS
PHYAME	1	Phytolacca americana	1	FAC-	Nt	P-Forb	POKEWEED
PLALAN	0	PLANTAGO LANCEOLATA	0	FAC	Ad	P-Forb	ENGLISH PLANTAIN
PLAMAJ	0	PLANTAGO MAJOR	-1	FAC+	Ad	P-Forb	COMMON PLANTAIN
PLARUG	0	Plantago rugelii	0	FAC	Nt	A-Forb	RED-STALKED PLANTAIN
POAPRA	0	POA PRATENSIS	1	FAC-	Ad	P-Grass	KENTUCKY BLUE GRASS
POLAVI	0	POLYGONUM AVICULARE	1	FAC-	Ad	A-Forb	COMMON KNOTWEED
POLPEN	0	Polygonum pensylvanicum	-4	FACW+	Nt	A-Forb	PINKWEED
POLPER	0	POLYGONUM PERSICARIA	1	[FAC-]	Ad	A-Forb	LADY'S THUMB
POPCAN	0	PCPULUS CANESCENS	5	UPL	Ad	Tree	GRAY POPLAR
POPDEL	2	Populus deltoides	-1	FAC+	Nt	Tree	EASTERN COTTONWOOD
POROLE	0	PORTULACA OLERACEA	1	FAC-	Ad	A-Forb	PURSLANE
POTNOR	0	Potentilla norvegica	0	FAC	Nt	A-Forb	NORWAY CINQUEFOIL
QUEMAC	5	Quercus macrocarpa	1	FAC-	Nt	Tree	BUR OAK
QUERUB	7	Quercus rubra	3	FACU	Nt	Tree	RED OAK
RHACAT	0	RHAMNUS CATHARTICA	3	FACU	Ad	Shrub	COMMON BUCKTHORN
RHUGLA	1	Rhus glabra	5	UPL	Nt	Shrub	SMOOTH SUMAC
RUDHIR	1	Rudbeckia hirta	3	FACU	Nt	P-Forb	BLACK-EYED SUSAN
RUMCRI	0	RUMEX CRISPUS	-1	FAC+	Ad	P-Forb	CURLY DOCK
SALAMY	5	Salix amygdaloides	-3	FACW	Nt	Tree	PEACH-LEAVED WILLOW
SETFAB	0	SETARIA FABERI	2	FACU+	Ad	A-Grass	GIANT FOXTAIL
SETGLA	0	SETARIA GLAUCA	0	FAC	Ad	A-Grass	YELLOW FOXTAIL
SETVIV	0	SETARIA VIRIDIS	1	[FAC-]	Ad	A-Grass	GREEN FOXTAIL
SOLAME	0	Solanum americanum	4	FACU-	Nt	A-Forb	BLACK NIGHTSHADE
SOLCAR	0	SOLANUM CAROLINENSE	4	FACU-	Ad	P-Forb	HORSE NETTLE
SOLCAN	1	Solidago canadensis	3	FACU	Nt	P-Forb	CANADA GOLDENROD
SONOLE	0	SONCHUS OLERACEUS	5	[UPL]	Ad	A-Forb	STORE-FRONT SOW THISTLE
SORNUT	5	Sorghastrum nutans	2	FACU+	Nt	P-Grass	INDIAN GRASS
SPOVAG	0	Sporobolus vaginiflorus	5	UPL	Nt	A-Grass	SHEATHED RUSH GRASS
TAROFF	0	TARAXACUM OFFICINALE	3	FACU	Ad	P-Forb	COMMON DANDELION
TEUCAN	3	Teucrium canadense	-3	FACW	Nt	P-Forb	GERMANDER
TRIHVB	0	TRIFOLIUM HYBRIDUM	1	FAC-	Ad	P-Forb	ALSIKE CLOVER
TRIPRA	0	TRIFOLIUM PRATENSE	5	UPL	Ad	P-Forb	RED CLOVER
TRIREF	0	TRIFOLIUM REPENS	2	FACU+	Ad	P-Forb	WHITE CLOVER
ULMPUM	0	ULMUS PUMILA	5	UPL	Ad	Tree	SIBERIAN ELM
VERBLT	0	VERBASCUM BLATTARIA	3	FACU	Ad	B-Forb	MOTH MULLEIN
VERTHA	0	VERBASCUM THAPSUS	5	UPL	Ad	B-Forb	COMMON MULLEIN
VERURU	5	Verbena urticifolia	5	UPL	Nt	P-Forb	HAIRY WHITE VERVAIN
VITRIP	2	Vitis riparia	-2	FACW-	Nt	W-Vine	RIVERBANK GRAPE
XANSTR	0	XANTHIUM STRUMARIUM	0	FAC	Ad	A-Forb	COCKLEBUR

APPENDIX III

FLORISTIC QUALITY ASSESSMENT – TRANSECT SAMPLING

The following is a summary of the transect data generated using Wilhelm and Masters's *Floristic Quality Assessment and Computer Applications*, 1999. Plant nomenclature follows Swink and Wilhelm's *Plants of the Chicago Region*, 1994. The results of each transect are presented in 4 sections as follows—

Section 1 is a summary of the transect quadrats. Data listed for each quadrat includes the mean coefficient of conservatism (MC), floristic quality index (FQI), and mean wetness (MW). These values are calculated once for native species only, and a second time including adventive species (W/Ad). Also presented for each quadrat are the number of native species (NS), and number of total species (TS). Shown below each of these columns are their values averaged per quadrat (AVG), and standard deviation (STD). The columns to the far right are sequential averages of the wetness coefficients $[(x+n+y)/3]$, useful in discerning or graphing vegetation along a catena topographic sequence.

Section 2 summarizes these same values for the entire transect. First is a tabulation of the species in each conservatism category (0 to 10) and the percentage of species in three conservatism classes (0 to 3, 4 to 6, 7 to 10). The 2 columns below summarize the number and percent of species in each physiognomic group (A=annual, B=biennial, P=perennial, W=woody, H=herbaceous). Next is a summary of the relative importance values of each physiognomic group. Relative importance values (RIV) are calculated by relativizing the frequency (FRQ) and the cover class (COV) of each group found in the transect. These are summed, and divided by two to achieve the RIV.

Section 3 is a table that lists the relative importance values for each species found in the quadrats, calculated in the same manner described above. Each scientific name is followed by its coefficient of conservatism and wetland indicator status.

Section 4 is the transect inventory arranged alphabetically to scientific name. This is followed by a list of the quadrats along the transect string including the cover class value determined for each species in each quadrat.

Site: BLACKWELL LANDFILL PRAIRIE RESTORATION - TRANSECT 1
 Locale: Warrenville - DuPage Co., IL
 Date: September 27, 2001
 By: Conservation Design Forum (Johnson)
 File: c:\FQA\studies\bwellt12001.tra

SECTION 1

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW	SEQ	W/Ad
1	4.0	1.3	5.7	3.3	1.0	2.2	2	6	-1.0	2.2	
2	0.0	0.0	0.0	0.0	-3.0	2.3	1	4	-1.5	1.9	
3	0.0	0.0	0.0	0.0	-2.5	1.4	2	5	-2.8	1.8	
4	0.0	0.0	0.0	0.0	-3.0	1.8	1	5	-2.7	1.5	
5	0.0	0.0	0.0	0.0	-2.5	1.3	2	6	-1.3	1.7	
6	1.3	1.0	2.3	2.0	1.7	2.0	3	4	-0.9	1.5	
7	0.0	0.0	0.0	0.0	-2.0	1.3	1	4	-1.1	1.9	
8	0.0	0.0	0.0	0.0	-3.0	2.5	1	4	-1.1	1.7	
9	1.3	0.7	2.3	1.6	1.7	1.5	3	6	-1.4	1.9	
10	0.0	0.0	0.0	0.0	-3.0	1.7	1	3	-0.7	1.6	
AVG	0.7	0.3	1.0	0.7	-1.5	1.8	1.7	4.7			
STD	1.3	0.5	1.9	1.2	2.0	0.4	0.8	1.1			

SECTION 2

C	NUMBER	6 NATIVE SPECIES
0	2	16 TOTAL SPECIES
1	1	2.5 NATIVE MEAN C
2	0 0 to 3	0.9 W/Adventives
3	2 83.3%	6.1 NATIVE FQI
4	0	3.8 W/Adventives
5	0	2.2 NATIVE MEAN W
6	0 4 to 7	2.3 W/Adventives
7	0 0.0%	
8	1	
9	0 8 to 10	
10	0 16.7%	

Native	6	37.5%	Adventive	10	62.5%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	2	12.5%	P-Forb	1	6.3%
B-Forb	0	0.0%	B-Forb	2	12.5%
A-Forb	0	0.0%	A-Forb	4	25.0%
P-Grass	2	12.5%	P-Grass	1	6.3%
A-Grass	2	12.5%	A-Grass	2	12.5%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad A-Grass	12	37	25.5	34.3	29.9
Nt A-Grass	12	33	25.5	30.6	28.0
Ad A-Forb	11	17	23.4	15.7	19.6
Ad P-Forb	4	9	8.5	8.3	8.4
Nt P-Forb	3	4	6.4	3.7	5.0
Ad B-Forb	2	4	4.3	3.7	4.0
Nt P-Grass	2	2	4.3	1.9	3.1
Ad P-Grass	1	2	2.1	1.9	2.0

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C	WETNESS	FRQ	COV	RFRQ	RCOV	RIV
DIGITARIA ISCHAEMUM	0	FACU	9	32	19.1	29.6	24.4
Echinochloa crusgalli	0	FACW	9	27	19.1	25.0	22.1
HIBISCUS TRIONUM	0	UPL	5	8	10.6	7.4	9.0
MEDICAGO SATIVA	0	UPL	4	9	8.5	8.3	8.4
ABUTILON THEOPHRASTI	0	FACU-	4	7	8.5	6.5	7.5
Panicum dichotomiflorum	0	FACW-	3	6	6.4	5.6	6.0
SETARIA GLAUCA	0	FAC	3	5	6.4	4.6	5.5
Rudbeckia hirta	1	FACU	2	3	4.3	2.8	3.5
FESTUCA ELATIOR	0	FACU+	1	2	2.1	1.9	2.0
LACTUCA SERRIOLA	0	FAC	1	2	2.1	1.9	2.0
MELILOTUS ALBA	0	FACU	1	2	2.1	1.9	2.0
Bouteloua curtipendula	8	UPL	1	1	2.1	0.9	1.5
CHENOPODIUM ALBUM	0	FAC-	1	1	2.1	0.9	1.5
Echinacea purpurea	3	UPL	1	1	2.1	0.9	1.5
Eragrostis spectabilis	3	UPL	1	1	2.1	0.9	1.5
PORTULACA OLERACEA	0	FAC-	1	1	2.1	0.9	1.5
			47	108			

SECTION 4

ACRONYM	C	SCIENTIFIC NAME	W	WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0	ABUTILON THEOPHRASTI	4	FACU-	Ad A-Forb	VELVETLEAF
BOUCUR	8	Bouteloua curtipendula	5	UPL	Nt P-Grass	SIDE-OATS GRAMA
CHEALB	0	CHENOPODIUM ALBUM	1	FAC-	Ad A-Forb	LAMB'S QUARTERS
DIGISC	0	DIGITARIA ISCHAEMUM	3	FACU	Ad A-Grass	SMOOTH CRAB GRASS
ECHPUR	3	Echinacea purpurea	5	UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ECHCRU	0	Echinochloa crusgalli	-3	FACW	Nt A-Grass	BARNYARD GRASS
ERASPE	3	Eragrostis spectabilis	5	UPL	Nt P-Grass	PURPLE LOVE GRASS
FESELA	0	FESTUCA ELATIOR	2	FACU+	Ad P-Grass	TALL FESCUE
HIBTRI	0	HIBISCUS TRIONUM	5	UPL	Ad A-Forb	FLOWER-OF-AN-HOUR
LACSER	0	LACTUCA SERRIOLA	0	FAC	Ad B-Forb	PRICKLY LETTUCE
MEDSAT	0	MEDICAGO SATIVA	5	UPL	Ad P-Forb	ALFALFA
MELALB	0	MELILOTUS ALBA	3	FACU	Ad B-Forb	WHITE SWEET CLOVER
PANDII	0	Panicum dichotomiflorum	-2	FACW-	Nt A-Grass	KNEE GRASS
POROLE	0	PORTULACA OLERACEA	1	FAC-	Ad A-Forb	PURSLANE
RUDHIR	1	Rudbeckia hirta	3	FACU	Nt P-Forb	BLACK-EYED SUSAN
SETGLA	0	SETARIA GLAUCA	0	FAC	Ad A-Grass	YELLOW FOXTAIL

TRANSECT STRING

```

>
  QUAD      1
ACRONYM    COVER
BOUCUR     1
DIGISC     2
ECHCRU     3
HIBTRI     2
MELALB     2
SETGLA     1
>
  QUAD      2
ACRONYM    COVER
ABUTHE     3
DIGISC     3
ECHCRU     3
HIBTRI     1
>
  QUAD      3
ACRONYM    COVER
ABUTHE     2
DIGISC     4
ECHCRU     3
MEDSAT     2
PANDII     2
>

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  QUAD      4
ACRONYM    COVER
ABUTHE     1
DIGISC     4
ECHCRU     4
HIBTRI     3
SETGLA     3
>
  QUAD      5
ACRONYM    COVER
ECHCRU     3
FESELA     2
HIBTRI     1
MEDSAT     2
PANDII     3
POROLE     1
>
  QUAD      6
ACRONYM    COVER
DIGISC     4
ECHCRU     2
ECHPUR     1
RUDHIR     1
>
  QUAD      7
ACRONYM    COVER

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ABUTHE     1
DIGISC     4
LACSER     2
PANDII     1
>
  QUAD      8
ACRONYM    COVER
DIGISC     4
ECHCRU     4
HIBTRI     1
MEDSAT     1
>
  QUAD      9
ACRONYM    COVER
CHEALB     1
DIGISC     4
ECHCRU     1
ERASPE     1
RUDHIR     2
SETGLA     1
>
  QUAD     10
ACRONYM    COVER
DIGISC     3
ECHCRU     4
MEDSAT     4

```

Site: BLACKWELL LANDFILL PRAIRIE RESTORATION - TRANSECT 2
 Locale: Warrenville - DuPage Co., IL
 Date: September 27, 2001
 By: Conservation Design Forum (Johnson)
 File: c:\FQA\studies\bwellt22001.tra

SECTION 1

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW	SEQ	W/Ad
1	0.5	0.1	0.7	0.4	3.0	3.5	2	8		3.4	3.6
2	4.3	2.6	10.6	8.2	3.8	3.8	6	10		2.3	2.8
3	0.0	0.0	0.0	0.0	0.0	1.0	0	4		1.3	2.5
4	0.0	0.0	0.0	0.0	0.0	2.8	0	4		0.0	2.4
5	0.0	0.0	0.0	0.0	0.0	3.3	0	3		1.7	2.9
6	5.0	1.0	5.0	2.2	5.0	2.6	1	5		1.7	3.1
7	0.0	0.0	0.0	0.0	0.0	3.3	0	3		1.7	3.1
8	0.0	0.0	0.0	0.0	0.0	3.3	0	3		0.0	3.9
9	0.0	0.0	0.0	0.0	0.0	5.0	0	2		0.0	4.4
10	0.0	0.0	0.0	0.0	0.0	5.0	0	2		0.0	5.0
AVG	1.0	0.4	1.6	1.1	1.2	3.4	0.9	4.4			
STD	2.0	0.8	3.5	2.6	2.0	1.2	1.9	2.6			

SECTION 2

C	NUMBER	
0	1	9 NATIVE SPECIES
1	2	25 TOTAL SPECIES
2	0 0 to 3	3.6 NATIVE MEAN C
3	1 44.4%	1.3 W/Adventives
4	1	10.7 NATIVE FQI
5	3	6.4 W/Adventives
6	0 4 to 7	3.8 NATIVE MEAN W
7	0 44.4%	3.3 W/Adventives
8	1	
9	0 8 to 10	
10	0 11.1%	

Native	9	36.0%	Adventive	16	64.0%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	5	20.0%	P-Forb	5	20.0%
B-Forb	1	4.0%	B-Forb	5	20.0%
A-Forb	1	4.0%	A-Forb	1	4.0%
P-Grass	2	8.0%	P-Grass	3	12.0%
A-Grass	0	0.0%	A-Grass	2	8.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad P-Forb	14	36	31.8	37.9	34.9
Ad B-Forb	9	16	20.5	16.8	18.6
Ad P-Grass	6	18	13.6	18.9	16.3
Nt P-Forb	5	7	11.4	7.4	9.4
Ad A-Grass	3	6	6.8	6.3	6.6
Ad A-Forb	3	5	6.8	5.3	6.0
Nt P-Grass	2	4	4.5	4.2	4.4
Nt A-Forb	1	2	2.3	2.1	2.2
Nt B-Forb	1	1	2.3	1.1	1.7

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C WETNESS	FRQ	COV	RFRQ	RCOV	RIV
CORONILLA VARIA	0 UPL	9	30	20.0	30.9	25.5
BROMUS INERMIS	0 UPL	4	13	8.9	13.4	11.1
ALLIARIA PETIOLATA	0 FAC	4	9	8.9	9.3	9.1
ATRIPLEX PATULA	0 FACW-	3	5	6.7	5.2	5.9
AVENA SATIVA	0 UPL	2	4	4.4	4.1	4.3
CIRSIUM ARVENSE	0 UPL	2	3	4.4	3.1	3.8
BARBAREA VULGARIS	0 FAC	2	2	4.4	2.1	3.3
Bouteloua curtipendula	8 UPL	1	3	2.2	3.1	2.7
FESTUCA ELATIOR	0 FACU+	1	3	2.2	3.1	2.7
Acalypha rhomboidea	0 FACU	1	2	2.2	2.1	2.1
ARCTIUM MINUS	0 UPL	1	2	2.2	2.1	2.1
CIRSIUM VULGARE	0 FACU-	1	2	2.2	2.1	2.1
Echinacea purpurea	3 UPL	1	2	2.2	2.1	2.1
LOLIUM MULTIFLORUM	0 UPL	1	2	2.2	2.1	2.1
POA PRATENSIS	0 FAC-	1	2	2.2	2.1	2.1
Rudbeckia hirta	1 FACU	1	2	2.2	2.1	2.1
SOIL	0	1	2	2.2	2.1	2.1
CHRYSANTHEMUM L...M PINNATIFIDUM	0 UPL	1	1	2.2	1.0	1.6
DAUCUS CAROTA	0 UPL	1	1	2.2	1.0	1.6
Erigeron strigosus	5 [UPL]	1	1	2.2	1.0	1.6
Heliopsis helianthoides	5 UPL	1	1	2.2	1.0	1.6
Monarda fistulosa	4 FACU	1	1	2.2	1.0	1.6
NEPETA CATARIA	0 FAC-	1	1	2.2	1.0	1.6
Solidago canadensis	1 FACU	1	1	2.2	1.0	1.6
Sorghastrum nutans	5 FACU+	1	1	2.2	1.0	1.6
TARAXACUM OFFICINALE	0 FACU	1	1	2.2	1.0	1.6
		45	97			

SECTION 4

ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOGNOMY	COMMON NAME
ACARHO	0 Acalypha rhomboidea	3 FACU	Nt A-Forb	THREE-SEEDED MERCURY
ALLPET	0 ALLIARIA PETIOLATA	0 FAC	Ad B-Forb	GARLIC MUSTARD
ARCMIN	0 ARCTIUM MINUS	5 UPL	Ad B-Forb	COMMON BURDOCK
ATRPAT	0 ATRIPLEX PATULA	-2 FACW-	Ad A-Forb	COMMON ORACH
AVESAT	0 AVENA SATIVA	5 UPL	Ad A-Grass	OATS
BARVUL	0 BARBAREA VULGARIS	0 FAC	Ad B-Forb	YELLOW ROCKET
BOUCUR	8 Bouteloua curtipendula	5 UPL	Nt P-Grass	SIDE-OATS GRAMA
BROINE	0 BROMUS INERMIS	5 UPL	Ad P-Grass	HUNGARIAN BROME
CHRLP	0 CHRYSANTHEMUM LEUCANTHEMUM PINNATIFIDUM	5 UPL	Ad P-Forb	OX-EYE DAISY
CIRARV	0 CIRSIUM ARVENSE	5 UPL	Ad P-Forb	FIELD THISTLE
CIRVUL	0 CIRSIUM VULGARE	4 FACU-	Ad B-Forb	BULL THISTLE
CORVAR	0 CORONILLA VARIA	5 UPL	Ad P-Forb	CROWN VETCH

DAUCAR	0 DAUCUS CAROTA	5 UPL	Ad B-Forb	QUEEN ANNE'S LACE
ECHPUR	3 Echinacea purpurea	5 UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ERISTR	5 Erigeron strigosus	5 [UPL]	Nt B-Forb	DAISY FLEABANE
FESELA	0 FESTUCA ELATIOR	2 FACU+	Ad P-Grass	TALL FESCUE
HELHEL	5 Heliopsis helianthoides	5 UPL	Nt P-Forb	FALSE SUNFLOWER
LOLMUL	0 LOLIUM MULTIFLORUM	5 UPL	Ad A-Grass	ITALIAN RYE GRASS
MONFIS	4 Monarda fistulosa	3 FACU	Nt P-Forb	WILD BERGAMOT
NEPCAT	0 NEPETA CATARIA	1 FAC-	Ad P-Forb	CATNIP
POAPRA	0 POA PRATENSIS	1 FAC-	Ad P-Grass	KENTUCKY BLUE GRASS
RUDHIR	1 Rudbeckia hirta	3 FACU	Nt P-Forb	BLACK-EYED SUSAN
SOIL	0 SOIL	0 nil	nil	SOIL
SOLCAN	1 Solidago canadensis	3 FACU	Nt P-Forb	CANADA GOLDENROD
SORNUT	5 Sorghastrum nutans	2 FACU+	Nt P-Grass	INDIAN GRASS
TAROFF	0 TARAXACUM OFFICINALE	3 FACU	Ad P-Forb	COMMON DANDELION

TRANSECT STRING		QUAD	3	ERISTR	1
>		ACRONYM	COVER	>	
QUAD	1	ALLPET	2	QUAD	7
ACRONYM	COVER	ATRPAT	1	ACRONYM	COVER
ACARHO	2	CORVAR	4	ALLPET	4
ARCMIN	2	NEPCAT	1	CIRARV	2
CIRVUL	2	>		CORVAR	2
CORVAR	4	QUAD	4	>	
DAUCAR	1	ACRONYM	COVER	QUAD	8
FESELA	3	ATRPAT	2	ACRONYM	COVER
POAPRA	2	AVESAT	1	ALLPET	2
SOLCAN	1	CORVAR	3	AVESAT	3
>		TAROFF	1	CORVAR	2
QUAD	2	>		SOIL	2
ACRONYM	COVER	QUAD	5	>	
BARVUL	1	ACRONYM	COVER	QUAD	9
BOUCUR	3	ALLPET	1	ACRONYM	COVER
BROINE	2	BROINE	2	BROINE	4
CHRLEP	1	CORVAR	4	CORVAR	4
ECHPUR	2	>		>	
HELHEL	1	QUAD	6	QUAD	10
LOLMUL	2	ACRONYM	COVER	ACRONYM	COVER
MONFIS	1	ATRPAT	2	BROINE	5
RUDHIR	2	BARVUL	1	CORVAR	3
SORNUT	1	CIRARV	1		
>		CORVAR	4		

Site: BLACKWELL LANDFILL PRAIRIE RESTORATION - TRANSECT 3
 Locale: Warrenville - DuPage Co., IL
 Date: September 27, 2001
 By: Conservatin Design Forum (Johnson)
 File: c:\FQA\studies\bwellt32001.tra

SECTION 1

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	1.0	0.4	1.7	1.1	-0.7	1.4	3	7	-1.8	1.2
2	0.0	0.0	0.0	0.0	-3.0	1.0	3	7	-2.1	0.9
3	0.0	0.0	0.0	0.0	-2.5	0.4	2	5	-1.8	0.8
4	0.7	0.3	1.2	0.7	0.0	1.1	3	8	-0.3	1.4
5	0.3	0.1	0.6	0.3	1.7	2.7	3	9	-0.4	1.7
6	0.0	0.0	0.0	0.0	-3.0	1.3	1	3	-1.6	1.3
7	0.0	0.0	0.0	0.0	-3.5	0.0	2	5	-3.3	0.4
8	0.0	0.0	0.0	0.0	-3.5	-0.2	2	4	-3.3	-0.2
9	0.0	0.0	0.0	0.0	-3.0	-0.5	1	2	-3.2	-0.4
10	0.0	0.0	0.0	0.0	-3.0	-0.3	1	3	-3.0	-0.4
AVG	0.2	0.1	0.3	0.2	-2.0	0.7	2.1	5.3		
STD	0.4	0.1	0.6	0.4	1.8	1.0	0.9	2.4		

SECTION 2

C	NUMBER	8 NATIVE SPECIES
0	5	22 TOTAL SPECIES
1	2	0.6 NATIVE MEAN C
2	0 0 to 3	0.2 W/Adventives
3	1 100.0%	1.8 NATIVE FQI
4	0	1.1 W/Adventives
5	0	0.5 NATIVE MEAN W
6	0 4 to 7	2.0 W/Adventives
7	0 0.0%	
8	0	
9	0 8 to 10	
10	0 0.0%	

Native	8	36.4%	Adventive	14	63.6%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	3	13.6%	P-Forb	2	9.1%
B-Forb	0	0.0%	B-Forb	1	4.5%
A-Forb	2	9.1%	A-Forb	6	27.3%
P-Grass	1	4.5%	P-Grass	1	4.5%
A-Grass	2	9.1%	A-Grass	4	18.2%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad A-Grass	14	46	26.4	36.2	31.3
Nt A-Grass	11	39	20.8	30.7	25.7
Ad A-Forb	14	14	26.4	11.0	18.7
Nt A-Forb	5	14	9.4	11.0	10.2
Nt P-Forb	4	6	7.5	4.7	6.1
Ad P-Forb	2	2	3.8	1.6	2.7
Ad P-Grass	1	3	1.9	2.4	2.1
Ad B-Forb	1	2	1.9	1.6	1.7
Nt P-Grass	1	1	1.9	0.8	1.3

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C WETNESS	FRQ	COV	RFRQ	RCOV	RIV
Echinochloa crusgalli	0 FACW	9	34	17.0	26.8	21.9
SETARIA FABERI	0 FACU+	9	34	17.0	26.8	21.9
Polygonum pensylvanicum	0 FACW+	4	10	7.5	7.9	7.7
ABUTILON THEOPHRASTI	0 FACU-	5	5	9.4	3.9	6.7
SETARIA GLAUCA	0 FAC	3	7	5.7	5.5	5.6
HIBISCUS TRIONUM	0 UPL	4	4	7.5	3.1	5.3
Panicum dichotomiflorum	0 FACW-	2	5	3.8	3.9	3.9
Convolvulus sepium	1 FAC	2	4	3.8	3.1	3.5
CHENOPODIUM ALBUM	0 FAC-	2	2	3.8	1.6	2.7
Ambrosia artemisiifolia elatior	0 FACU	1	4	1.9	3.1	2.5
FESTUCA ELATIOR	0 FACU+	1	3	1.9	2.4	2.1
SETARIA VIRIDIS	0 [FAC-]	1	3	1.9	2.4	2.1
DAUCUS CAROTA	0 UPL	1	2	1.9	1.6	1.7
LOLIUM MULTIFLORUM	0 UPL	1	2	1.9	1.6	1.7
Aster pilosus	0 FACU+	1	1	1.9	0.8	1.3
Eragrostis spectabilis	3 UPL	1	1	1.9	0.8	1.3
POLYGONUM AVICULARE	0 FAC-	1	1	1.9	0.8	1.3
Solidago canadensis	1 FACU	1	1	1.9	0.8	1.3
SONCHUS OLERACEUS	0 [UPL]	1	1	1.9	0.8	1.3
TARAXACUM OFFICINALE	0 FACU	1	1	1.9	0.8	1.3
TRIFOLIUM PRATENSE	0 UPL	1	1	1.9	0.8	1.3
XANTHIUM STRUMARIUM	0 FAC	1	1	1.9	0.8	1.3
		53	127			

SECTION 4

ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0 ABUTILON THEOPHRASTI	4 FACU-	Ad A-Forb	VELVETLEAF
AMBARE	0 Ambrosia artemisiifolia elatior	3 FACU	Nt A-Forb	COMMON RAGWEED
ASTPIL	0 Aster pilosus	2 FACU+	Nt P-Forb	HAIRY ASTER
CHEALB	0 CHENOPODIUM ALBUM	1 FAC-	Ad A-Forb	LAMB'S QUARTERS
CONSEP	1 Convolvulus sepium	0 FAC	Nt P-Forb	HEDGE BINDWEED
DAUCAR	0 DAUCUS CAROTA	5 UPL	Ad B-Forb	QUEEN ANNE'S LACE
ECHCRU	0 Echinochloa crusgalli	-3 FACW	Nt A-Grass	BARNYARD GRASS
ERASPE	3 Eragrostis spectabilis	5 UPL	Nt P-Grass	PURPLE LOVE GRASS
FESELA	0 FESTUCA ELATIOR	2 FACU+	Ad P-Grass	TALL FESCUE
HIBTRI	0 HIBISCUS TRIONUM	5 UPL	Ad A-Forb	FLOWER-OF-AN-HOUR
LOLMUL	0 LOLIUM MULTIFLORUM	5 UPL	Ad A-Grass	ITALIAN RYE GRASS
PANDII	0 Panicum dichotomiflorum	-2 FACW-	Nt A-Grass	KNEE GRASS
POLAVI	0 POLYGONUM AVICULARE	1 FAC-	Ad A-Forb	COMMON KNOTWEED
POLPEN	0 Polygonum pensylvanicum	-4 FACW+	Nt A-Forb	PINKWEED
SETFAB	0 SETARIA FABERI	2 FACU+	Ad A-Grass	GIANT FOXTAIL
SETGLA	0 SETARIA GLAUCA	0 FAC	Ad A-Grass	YELLOW FOXTAIL
SETVIV	0 SETARIA VIRIDIS	1 [FAC-]	Ad A-Grass	GREEN FOXTAIL

SOLCAN	1	Solidago canadensis	3	FACU	Nt	P-Forb	CANADA GOLDENROD
SONOLE	0	SONCHUS OLERACEUS	5	[UPL]	Ad	A-Forb	STORE-FRONT SOW THISTLE
TAROFF	0	TARAXACUM OFFICINALE	3	FACU	Ad	P-Forb	COMMON DANDELION
TRIPRA	0	TRIFOLIUM PRATENSE	5	UPL	Ad	P-Forb	RED CLOVER
XANSTR	0	XANTHIUM STRUMARIUM	0	FAC	Ad	A-Forb	COCKLEBUR

TRANSECT STRING

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>
  QUAD      1
ACRONYM    COVER
ABUTHE     1
ECHCRU     2
ERASPE     1
HIBTRI     1
POLPEN     3
SETFAB     4
SETVIV     3
>
  QUAD      2
ACRONYM    COVER
ABUTHE     1
ECHCRU     3
HIBTRI     1
PANDII     2
POLPEN     2
SETFAB     4
SONOLE     1
>
  QUAD      3
ACRONYM    COVER
ECHCRU     3
HIBTRI     1
PANDII     3
SETFAB     3

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SETGLA      2
>
  QUAD      4
ACRONYM    COVER
ABUTHE     1
CHEALB     1
CONSEP     2
ECHCRU     3
FESELA     3
SETFAB     3
SOLCAN     1
XANSTR     1
>
  QUAD      5
ACRONYM    COVER
AMBARE     4
ASTPIL     1
CONSEP     2
DAUCAR     2
HIBTRI     1
POLAVI     1
SETGLA     3
TAROFF     1
TRIPRA     1
>
  QUAD      6
ACRONYM    COVER
ECHCRU     4

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LOLMUL      2
SETFAB      3
>
  QUAD      7
ACRONYM    COVER
ABUTHE     1
CHEALB     1
ECHCRU     4
POLPEN     2
SETFAB     4
>
  QUAD      8
ACRONYM    COVER
ABUTHE     1
ECHCRU     5
POLPEN     3
SETFAB     4
>
  QUAD      9
ACRONYM    COVER
ECHCRU     5
SETFAB     5
>
  QUAD     10
ACRONYM    COVER
ECHCRU     5
SETFAB     4
SETGLA     2

```


Site: BLACKWELL LANDFILL PRAIRIE RESTORATION - TRANSECT 4
 Locale: Warrenville - DuPage Co., IL
 Date: September 27, 2001
 By: Conservation Design Forum (Johnson)
 File: c:\FQA\studies\bwel1t42001.tra

SECTION 1

QUAD	MC	W/Ad	FQI	W/Ad	MW	W/Ad	NS	TS	MW SEQ	W/Ad
1	0.0	0.0	0.0	0.0	-2.7	0.0	3	6	-3.1	0.7
2	0.0	0.0	0.0	0.0	-3.5	1.3	2	6	-2.5	0.5
3	0.0	0.0	0.0	0.0	-1.3	0.2	3	6	-2.8	0.7
4	0.0	0.0	0.0	0.0	-3.5	0.5	2	6	-1.5	0.6
5	0.0	0.0	0.0	0.0	0.3	1.0	3	8	-1.7	1.0
6	0.0	0.0	0.0	0.0	-2.0	1.4	2	7	-1.2	1.3
7	0.0	0.0	0.0	0.0	-2.0	1.3	2	6	0.3	1.9
8	0.0	0.0	0.0	0.0	5.0	2.8	1	5	-0.2	1.7
9	0.0	0.0	0.0	0.0	-3.5	1.0	2	6	0.7	2.0
10	1.3	0.6	2.5	1.8	0.5	2.1	4	8	-1.5	1.6
AVG	0.1	0.1	0.3	0.2	-1.3	1.2	2.4	6.4		
STD	0.4	0.2	0.8	0.6	2.6	0.9	0.8	1.0		

SECTION 2

C	NUMBER	8 NATIVE SPECIES
0	6	21 TOTAL SPECIES
1	1	0.6 NATIVE MEAN C
2	0 0 to 3	0.2 W/Adventives
3	0 87.5%	1.8 NATIVE FQI
4	1	1.1 W/Adventives
5	0	0.8 NATIVE MEAN W
6	0 4 to 7	1.6 W/Adventives
7	0 12.5%	
8	0	
9	0 8 to 10	
10	0 0.0%	

Native	8	38.1%	Adventive	13	61.9%
Tree	0	0.0%	Tree	0	0.0%
Shrub	0	0.0%	Shrub	0	0.0%
W-Vine	0	0.0%	W-Vine	0	0.0%
H-Vine	0	0.0%	H-Vine	0	0.0%
P-Forb	2	9.5%	P-Forb	4	19.0%
B-Forb	0	0.0%	B-Forb	0	0.0%
A-Forb	5	23.8%	A-Forb	5	23.8%
P-Grass	0	0.0%	P-Grass	0	0.0%
A-Grass	1	4.8%	A-Grass	4	19.0%
P-Sedge	0	0.0%	P-Sedge	0	0.0%
A-Sedge	0	0.0%	A-Sedge	0	0.0%
Cryptogam	0	0.0%			

PHYSIOGNOMIC RELATIVE IMPORTANCE VALUES

PHYSIOGNOMY	FRQ	COV	RFRQ	RCOV	RIV
Ad A-Forb	21	30	32.8	23.3	28.0
Ad A-Grass	14	40	21.9	31.0	26.4
Nt A-Forb	16	28	25.0	21.7	23.4
Nt A-Grass	6	18	9.4	14.0	11.7
Ad P-Forb	5	11	7.8	8.5	8.2
Nt P-Forb	2	2	3.1	1.6	2.3

SECTION 3

SPECIES RELATIVE IMPORTANCE VALUES

SCIENTIFIC NAME	C WETNESS	FRQ	COV	RFRQ	RCOV	RIV
LOLIUM MULTIFLORUM	0 UPL	7	25	10.6	18.8	14.7
Polygonum pensylvanicum	0 FACW+	8	16	12.1	12.0	12.1
Echinochloa crusgalli	0 FACW	6	18	9.1	13.5	11.3
ABUTILON THEOPHRASTI	0 FACU-	7	8	10.6	6.0	8.3
CHENOPODIUM ALBUM	0 FAC-	6	8	9.1	6.0	7.6
POLYGONUM AVICULARE	0 FAC-	4	7	6.1	5.3	5.7
SETARIA FABERI	0 FACU+	3	7	4.5	5.3	4.9
Plantago rugelii	0 FAC	3	6	4.5	4.5	4.5
SETARIA GLAUCA	0 FAC	3	6	4.5	4.5	4.5
HIBISCUS TRIONUM	0 UPL	3	5	4.5	3.8	4.2
TRIFOLIUM PRATENSE	0 UPL	2	6	3.0	4.5	3.8
SOIL	0	2	4	3.0	3.0	3.0
Amaranthus hybridus	0 UPL	2	3	3.0	2.3	2.6
Ambrosia trifida	0 FAC+	2	2	3.0	1.5	2.3
ATRIplex PATULA	0 FACW-	1	2	1.5	1.5	1.5
DIGITARIA ISCHAEMUM	0 FACU	1	2	1.5	1.5	1.5
PLANTAGO MAJOR	0 FAC+	1	2	1.5	1.5	1.5
TRIFOLIUM HYBRIDUM	0 FAC-	1	2	1.5	1.5	1.5
Ambrosia artemisiifolia elatior	0 FACU	1	1	1.5	0.8	1.1
Monarda fistulosa	4 FACU	1	1	1.5	0.8	1.1
Rudbeckia hirta	1 FACU	1	1	1.5	0.8	1.1
TARAXACUM OFFICINALE	0 FACU	1	1	1.5	0.8	1.1
		66	133			

SECTION 4

ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOGNOMY	COMMON NAME
ABUTHE	0 ABUTILON THEOPHRASTI	4 FACU-	Ad A-Forb	VELVETLEAF
AMAHYB	0 Amaranthus hybridus	5 UPL	Nt A-Forb	GREEN AMARANTH
AMBARE	0 Ambrosia artemisiifolia elatior	3 FACU	Nt A-Forb	COMMON RAGWEED
AMBTRI	0 Ambrosia trifida	-1 FAC+	Nt A-Forb	GIANT RAGWEED
ATRPAT	0 ATRIPLEX PATULA	-2 FACW-	Ad A-Forb	COMMON ORACH
CHEALB	0 CHENOPODIUM ALBUM	1 FAC-	Ad A-Forb	LAMB'S QUARTERS
DIGISC	0 DIGITARIA ISCHAEMUM	3 FACU	Ad A-Grass	SMOOTH CRAB GRASS
ECHCRU	0 Echinochloa crusgalli	-3 FACW	Nt A-Grass	BARNYARD GRASS
HIBTRI	0 HIBISCUS TRIONUM	5 UPL	Ad A-Forb	FLOWER-OF-AN-HOUR
LOLMUL	0 LOLIUM MULTIFLORUM	5 UPL	Ad A-Grass	ITALIAN RYE GRASS
MONFIS	4 Monarda fistulosa	3 FACU	Nt P-Forb	WILD BERGAMOT
PLAMAJ	0 PLANTAGO MAJOR	-1 FAC+	Ad P-Forb	COMMON PLANTAIN
PLARUG	0 Plantago rugelii	0 FAC	Nt A-Forb	RED-STALKED PLANTAIN
POLAVI	0 POLYGONUM AVICULARE	1 FAC-	Ad A-Forb	COMMON KNOTWEED
POLPEN	0 Polygonum pensylvanicum	-4 FACW+	Nt A-Forb	PINKWEED
RUDHIR	1 Rudbeckia hirta	3 FACU	Nt P-Forb	BLACK-EYED SUSAN
SETFAB	0 SETARIA FABERI	2 FACU+	Ad A-Grass	GIANT FOXTAIL
SETGLA	0 SETARIA GLAUCA	0 FAC	Ad A-Grass	YELLOW FOXTAIL
SOIL	0 SOIL	0 nil	nil	SOIL
TAROFF	0 TARAXACUM OFFICINALE	3 FACU	Ad P-Forb	COMMON DANDELION
TRIHYB	0 TRIFOLIUM HYBRIDUM	1 FAC-	Ad P-Forb	ALSIKE CLOVER

TRIPRA 0 TRIFOLIUM PRATENSE

5 UPL

Ad P-Forb

RED CLOVER

TRANSECT STRING

>
 QUAD 1
 ACRONYM COVER
 AMBTRI 1
 CHEALB 1
 ECHCRU 2
 POLPEN 2
 SETFAB 3
 TRIPRA 4
 >
 QUAD 2
 ACRONYM COVER
 ECHCRU 3
 HIBTRI 1
 LOLMUL 4
 POLPEN 2
 SETGLA 2
 TRIPRA 2
 >
 QUAD 3
 ACRONYM COVER
 ABUTHE 1
 AMBARE 1
 CHEALB 1
 ECHCRU 4
 POLPEN 2
 SETGLA 2
 >
 QUAD 4
 ACRONYM COVER
 ABUTHE 1
 CHEALB 1

ECHCRU 4
 LOLMUL 2
 POLPEN 3
 SETGLA 2
 >
 QUAD 5
 ACRONYM COVER
 AMAHYB 2
 AMBTRI 1
 ATRPAT 2
 CHEALB 1
 ECHCRU 3
 LOLMUL 4
 POLAVI 1
 SETFAB 3
 >
 QUAD 6
 ACRONYM COVER
 ABUTHE 1
 CHEALB 2
 LOLMUL 4
 PLARUG 1
 POLPEN 3
 TAROFF 1
 TRIHYB 2
 >
 QUAD 7
 ACRONYM COVER
 ABUTHE 2
 LOLMUL 5
 PLARUG 2
 POLAVI 1
 POLPEN 2

SETFAB 1
 >
 QUAD 8
 ACRONYM COVER
 ABUTHE 1
 AMAHYB 1
 LOLMUL 2
 PLAMAJ 2
 POLAVI 3
 SOIL 2
 >
 QUAD 9
 ACRONYM COVER
 ABUTHE 1
 CHEALB 2
 DIGISC 2
 ECHCRU 2
 HIBTRI 2
 POLPEN 1
 SOIL 2
 >
 QUAD 10
 ACRONYM COVER
 ABUTHE 1
 HIBTRI 2
 LOLMUL 4
 MONFIS 1
 PLARUG 3
 POLAVI 2
 POLPEN 1
 RUDHIR 1

APPENDIX IV

PRAIRIE SPECIES SEED LIST

The following 4 pages represent the species actually seeded across the Blackwell Landfill restoration site in May and June of 2001. (The seed oats cover crop is not included.) The first page is an alphabetical list of the 37 species with its FQA data summary. The next page is a Xerox copy of the packing slip from Ion Exchange (Harpers Ferry, Iowa). The last 2 pages are Xerox copies of the packing slip from Prairie Moon Nursery (Winona, Minnesota).

In general, ½ of the seed was ordered from one nursery, and the other ½ from the other. Seeding rates are as shown on the packing slips. With the exception of *Carex bicknellii*, all of the species requested in the bid package were purchased and installed as described earlier in this document.

Site: Blackwell Landfill Prairie Restoration
 Locale: Warrenville, DuPage Co., IL
 By: Conservation Design Forum (Johnson)
 File: c:\FQA\studies\bwllseedling.inv

FLORISTIC QUALITY DATA		Native	37	100.0%	Adventive	0	0.0%
37	NATIVE SPECIES	Tree	0	0.0%	Tree	0	0.0%
37	Total Species	Shrub	0	0.0%	Shrub	0	0.0%
5.6	NATIVE MEAN C	W-Vine	0	0.0%	W-Vine	0	0.0%
5.6	W/Adventives	H-Vine	0	0.0%	H-Vine	0	0.0%
34.4	NATIVE FQI	P-Forb	31	83.8%	P-Forb	0	0.0%
34.4	W/Adventives	B-Forb	0	0.0%	B-Forb	0	0.0%
2.5	NATIVE MEAN W	A-Forb	0	0.0%	A-Forb	0	0.0%
2.5	W/Adventives	P-Grass	6	16.2%	P-Grass	0	0.0%
AVG: Fac. Upland (+)		A-Grass	0	0.0%	A-Grass	0	0.0%
		P-Sedge	0	0.0%	P-Sedge	0	0.0%
		A-Sedge	0	0.0%	A-Sedge	0	0.0%
		Cryptogam	0	0.0%			

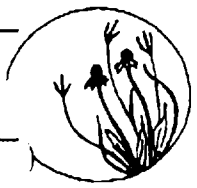
ACRONYM	C SCIENTIFIC NAME	W WETNESS	PHYSIOGNOMY	COMMON NAME
ANDGER	5 Andropogon gerardii	1 FAC-	Nt P-Grass	BIG BLUESTEM GRASS
ANDSCO	5 Andropogon scoparius	4 FACU-	Nt P-Grass	LITTLE BLUESTEM GRASS
AQUCAN	6 Aquilegia canadensis	1 FAC-	Nt P-Forb	WILD COLUMBINE
ASTAZU	8 Aster azureus	5 UPL	Nt P-Forb	SKY-BLUE ASTER
ASTERI	5 Aster ericoides	4 FACU-	Nt P-Forb	HEATH ASTER
ASTLAE	9 Aster laevis	5 UPL	Nt P-Forb	SMOOTH BLUE ASTER
ASTNOV	4 Aster novae-angliae	-3 FACW	Nt P-Forb	NEW ENGLAND ASTER
ASTCAN	10 Astragalus canadensis	5 (UPL)	Nt P-Forb	CANADIAN MILK VETCH
BAPLEA	8 Baptisia leucantha	2 FACU+	Nt P-Forb	WHITE WILD INDIGO
BOUCUR	8 Bouteloua curtipendula	5 UPL	Nt P-Grass	SIDE-OATS GRAMA
CORPAL	6 Coreopsis palmata	5 UPL	Nt P-Forb	PRAIRIE COREOPSIS
CORTRP	5 Coreopsis tripteris	0 FAC	Nt P-Forb	TALL COREOPSIS
DESCAA	4 Desmodium canadense	1 FAC-	Nt P-Forb	SHOWY TICK TREFOIL
ECHPUR	3 Echinacea purpurea	5 UPL	Nt P-Forb	BROAD-LEAVED PURPLE CONEFLOWER
ELYPAN	4 Elymus canadensis	1 FAC-	Nt P-Grass	CANADA WILD RYE
ERYYUC	9 Eryngium yuccifolium	-1 FAC+	Nt P-Forb	RATTLESNAKE MASTER
HELMOL	9 Helianthus mollis	5 UPL	Nt P-Forb	DOWNY SUNFLOWER
HELRIG	8 Helianthus rigidus	5 UPL	nil	PRAIRIE SUNFLOWER
HELHEL	5 Helianthus helianthoides	5 UPL	Nt P-Forb	FALSE SUNFLOWER
LESCAP	4 Lespedeza capitata	3 FACU	Nt P-Forb	ROUND-HEADED BUSH CLOVER
LIASPI	6 Liatris spicata	0 FAC	Nt P-Forb	MARSH BLAZING STAR
MONFIS	4 Monarda fistulosa	3 FACU	Nt P-Forb	WILD BERGAMOT
PANVIR	5 Panicum virgatum	-1 FAC+	Nt P-Grass	SWITCH GRASS
PARINT	8 Parthenium integrifolium	5 UPL	Nt P-Forb	WILD QUININE
PENDIG	4 Penstemon digitalis	1 FAC-	Nt P-Forb	FOXGLOVE BEARD TONGUE
PETPUR	9 Petalostemum purpureum	5 UPL	Nt P-Forb	PURPLE PRAIRIE CLOVER
PHYVIV	6 Physostegia virginiana	-5 (OBL)	Nt P-Forb	OBEDIENT PLANT
PYCVIR	5 Pycnanthemum virginianum	-4 FACW+	Nt P-Forb	COMMON MOUNTAIN MINT
RATPIN	4 Ratibida pinnata	5 UPL	Nt P-Forb	YELLOW CONEFLOWER
RUDHIR	1 Rudbeckia hirta	3 FACU	Nt P-Forb	BLACK-EYED SUSAN
SILINI	5 Silphium integrifolium	5 UPL	Nt P-Forb	ROSE WEED
SILLAC	5 Silphium laciniatum	5 UPL	Nt P-Forb	COMPASS PLANT
SILTER	5 Silphium terebinthinaceum	3 FACU	Nt P-Forb	PRAIRIE DOCK
SOLGRG	4 Solidago graminifolia	-2 FACW-	Nt P-Forb	COMMON GRASS-LEAVED GOLDENROD
SOLNEM	4 Solidago nemoralis	5 UPL	Nt P-Forb	OLD-FIELD GOLDENROD
SOLRIG	4 Solidago rigida	4 FACU-	Nt P-Forb	STIFF GOLDENROD
SORNUT	5 Sorghastrum nutans	2 FACU+	Nt P-Grass	INDIAN GRASS

CONSERVATION DESIGN FORUM QUOTE

By ION EXCHANGE

2-10-01

Blackwell Landfill Species List:				
Grasses @ 8 lb/acre total:				
Species	lbs.		Cost/Unit	Total Cost
+ Andropogon gerardii	7.20	✓	15.00	108.00
+ Andropogon scoparius	64.80	✓	25.00	1620.00
+ Bouteloua curtipendula	43.20	✓	18.00	777.60
+ Carex bicknellii	7.20	✓	NA	0.00
+ Elymus canadensis	7.20	✓	8.00	57.60
+ Panicum virgatum	7.20	✓	4.00	28.80
+ Sorghastrum nutans	7.20	✓	15.00	108.00
13	144.00			\$ 2,700.00
Forbs @ 2 lb/acre total: 12 Acres total				
Species	lbs.	ozs.	Cost/Unit	Total Cost/12 Acs.
+ Aquilegia canadensis	✓	9.00	30.00	270.00
+ Aster azureus	✓	1.50	60.00	90.00
+ Aster ericoides	✓	18.00	40.00	720.00
+ Aster laevis	✓	18.00	20.00	360.00
+ Aster novae-angliae	✓	18.00	20.00	360.00
+ Astragalus canadensis	✓	18.00	10.00	180.00
+ Baptisia leucantha	✓	18.00	20.00	360.00
+ Coreopsis palmata	✓	1.50	100.00	150.00
+ Coreopsis tripteris	✓	18.00	8.00	144.00
+ Desmodium canadense	✓	18.00	10.00	180.00
+ Echinacea purpurea 18 oz.	✓	30.00	3.00	90.00
+ Eryngium yuccifolium	✓	18.00	8.00	144.00
+ Helianthus mollis	✓	18.00	10.00	180.00
+ Helianthus rigidus	✓	1.50	40.00	60.00
+ Heliopsis helianthoides	✓	52.50	4.00	210.00
+ Lespedeza capitata	✓	18.00	10.00	180.00
+ Liatris spicata	✓	30.00	6.00	180.00
+ Monarda fistulosa	✓	1.50	30.00	45.00
+ Parthenium integrifolium	✓	18.00	8.00	144.00
+ Penstemon digitalis	✓	18.00	8.00	144.00
+ Petalostemum purpureum	✓	18.00	3.00	54.00
+ Physostegia virginiana	✓	18.00	NA	0.00
+ Pycnanthemum virginianum	✓	1.50	30.00	45.00
+ Ratibida pinnata	✓	52.50	2.00	105.00
+ Rudbeckia hirta	✓	34.50	2.00	69.00
+ Silphium integrifolium	✓	18.00	6.00	108.00
+ Silphium laciniatum	✓	18.00	15.00	270.00
+ Silphium terebinthinaceum	✓	18.00	15.00	270.00
+ Solidago graminifolia	✓	18.00	NA	0.00
+ Solidago nemoralis	✓	18.00	15.00	270.00
+ Solidago rigida	✓	18.00	10.00	180.00
		36.00		\$ 5,562.00
Each species to be packaged separately.				
Montgomery Watson Attn: Lenny Boring 27755 Diehl Road, Suite 300 Warrenville, IL 60555 630-336-8888 fax 630-336-8847 phone		50 % down to hold seed, remainder due upon shipment, otherwise credit card number needed.		
		Thanks, Howard Bright, owner Ion Exchange		



Prairie Moon Nursery
Route 3 Box 1633
Winona, MN 55987
Phone: 507 452-1362
Fax: 507 454-5238

PACKING SLIP

#01-247

S

Customer #: WATSON60555
Ship via: UPS
Terms: NET 30
P.O. #: 30527-000 OP.
Credit card ☐

Date: 02/15/2001
Ship Date: 05/16/2001
Desired Arrival Date:

Ship to:
MONTGOMERY WATSON
LONNY BORING
755 DIEHL ROAD, STE300

WARRENVILLE, IL 60555

Day: 630 836-8959

Evening:

Fax: 630 836-8947

☐ Subst.
☐ Dup.
☐ Refund

Bill to:

MONTGOMERY WATSON
ATTN: LONNY BORING
27755 DIEHL ROAD, STE300

WARRENVILLE, IL 60555
630 836-8947

Lot #	Ordered	Shipped	Unit	Cat. #	Description		
M746R	7	7	LB	✓S AND02G	Andropogon gerardii (Big Bluestem PLS)	18.00	126.00
					PLS 80.64 Bulk Wt. 8.68lb		
PM747R	87	67	LB	✓S AND06G	Andropogon scoparius (Little Bluestem PLS)	22.00	1474.00
					PLS 83.75 Bulk Wt. 80.00lb		
PM252Y	46	46	LB	✓S BOU02G	Bouteloua curtipendula (Side-oats Grama PLS)	24.00	1104.00
					PLS 60.83 Bulk Wt. 75.62lb		
M623R	9	9	LB	✓S ELY02G	Elymus canadensis (Canada Wild Rye PLS)	10.00	90.00
					PLS 85.28 Bulk Wt. 9.44lb		
349E	7	7	LB	✓S PAN04G	Panicum virgatum (Switch Grass PLS)	10.00	70.00
					PLS 87.56 Bulk Wt. 7.99lb		
AS262E	8	8	LB	✓S SOR52G	Sorghastrum nutans (Indian Grass PLS)	18.00	144.00
					PLS 73.05 Bulk Wt. 10.95lb		
	1	1	MIX	MF525	F525-Prairie, DM, Mixed - 36 forbs/lb	6153.98	6153.98

OUR FEDERAL TAX ID # IS 41-1943500

PLANTS	SEEDS	SHIPPING & HANDLING	POSTPAID ITEMS	SALES TAX	TOTAL AMOUNT	PAYMENT RECEIVED	BALANCE DUE
0.00	9161.98	100.00	0.00	0.00	9261.98	4728.49	\$4,533.49

PLEASE NOTE: Shipping & Handling = 15% on Plants (minimum charge \$4.50) & 5% on Seeds (minimum charge \$3.00).

Accounts not paid in full within 30 days of the ship date will have monthly finance charges added at a rate of 1.5%

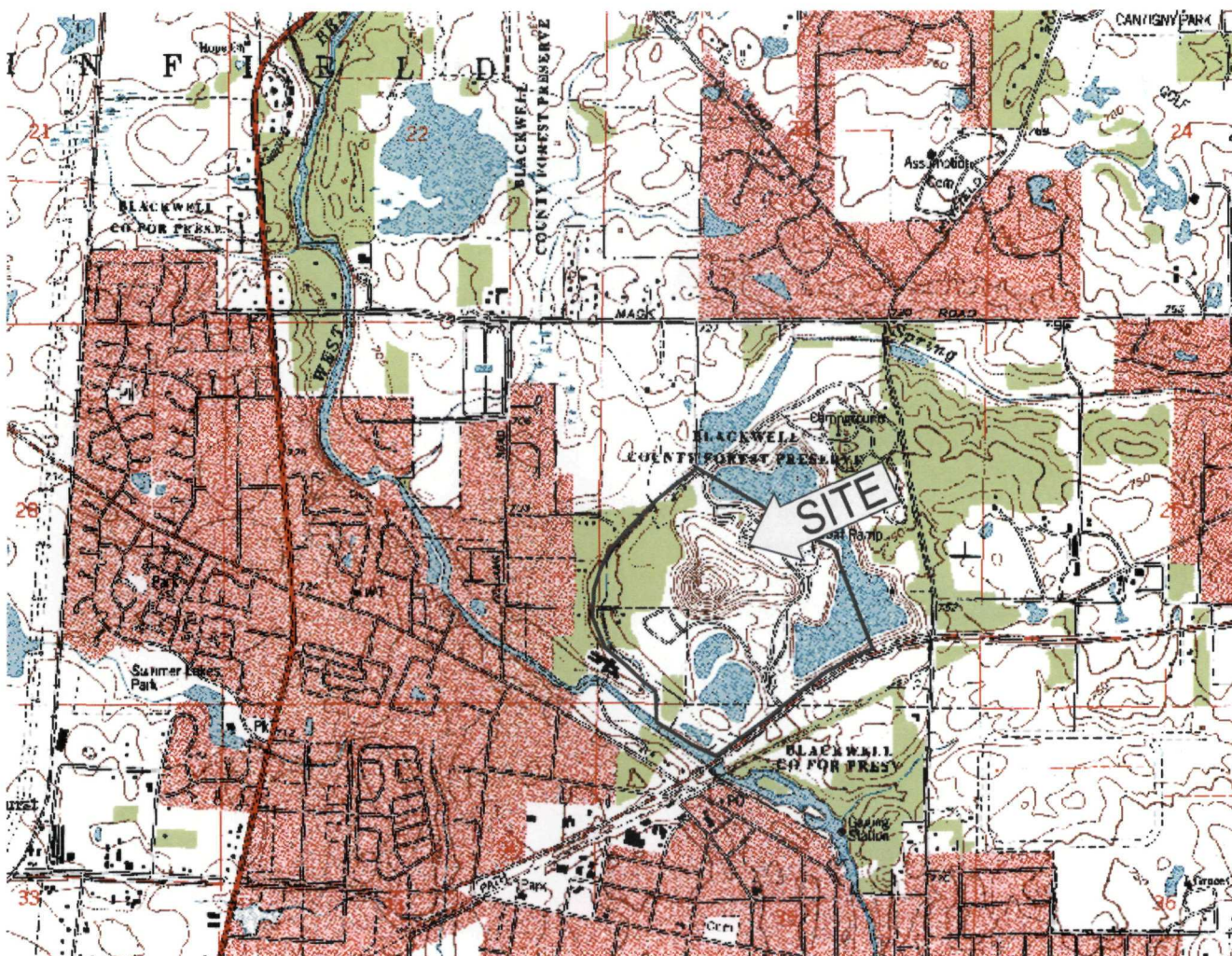
Restoration Monitoring Report - Appendix IV
Blackwell Landfill Prairie Restoration - Warrenville, IL
Conservation Design Forum (00005.00)

Seed Mix: F525-Prairie, DM,Mixed - 36 forbs/lb
F525: F525-Prairie, DM,Mixed - 36 fo

FORBS

Lot #	Description	% by wt	Grams	Qty Unit	Price	# Seeds	Sub.	Comment
PM740R	✓ Aquilegia canadensis Columbine	2.37	382.860	13.500 OZ	472.50 270.00	513,000		
PM131Y91 CL857R9	✓ Aster azureus Sky Blue Aster	1.06	170.160	6.000 OZ	240.00	480,000		
	Aster ericoides Heath Aster	0.00				0		SOLD OUT
HF1192E54 HF1465R46	✓ Aster laevis Smooth Blue Aster	1.90	306.288	10.800 OZ	270.00	594,000		
HF1467R	✓ Aster novae-angliae New England Aster	1.90	306.288	10.800 OZ	324.00	712,800		
WW876R	✓ Astragalus canadensis Canadian Milk Vetch	1.90	306.288	10.800 OZ	86.40	183,600		
GS940E8 GS75Y92	✓ Baptisia leucantha White Wild Indigo	3.80	612.576	1.350 LB	405.00	36,720		
HF184Y	✓ Coreopsis palmata Prairie Coreopsis	1.06	170.160	6.000 OZ	180.00	60,000		
HF392S3 HF1004R3 HF959R94	✓ Coreopsis tripteris Tall Coreopsis	3.17	510.480	1.125 LB	135.00	252,000		
HF245T	✓ Desmodium canadense Showy Tick Trefoil	3.17	510.480	1.125 LB	168.75	99,000		
PM516R	✓ Echinacea purpurea Purple Coneflower	9.50	1531.440	3.375 LB	151.88 84.23	358,400		
HF988E	✓ Eryngium yuccifolium Rattlesnake Master	6.33	1020.960	2.250 LB	202.50	270,000		
PM1208R	✓ Helianthus mollis Downy Sunflower	1.90	306.288	10.800 OZ	108.00	75,600		
PS1410E49 PX831E51	✓ Helopsis helianthoides Early Sunflower	4.22	680.640	1.500 LB	90.00	151,200		
ZB1123R2 ZB1385R73 B1539R25	✓ Lespedeza capitata Round-headed Bush Clover	4.22	680.640	1.500 LB	270.00	192,000		
754R	✓ Liatris spicata Marsh Blazing Star	4.22	680.640	1.500 LB	180.00 135.00	264,000		
SW1172R27 NA1176R73	✓ Monarda fistulosa Wild Bergamot	3.17	510.480	1.125 LB	253.12	1,260,000		
NA1178R19 SW1173R14 HF923R67	✓ Parthenium integrifolium Wild Quinine	7.60	1225.152	2.700 LB	405.00	302,400		
J1424R41 YN1547R54 PX1066R5	✓ Penstemon digitalis Foxglove Beardtongue	4.22	680.640	1.500 LB	225.00	3,120,000		
PM1561R	✓ Petalostemum purpureum Purple Prairie Clover	9.50	1531.440	3.375 LB	151.88	972,000		
BK1277R	✓ Physostegia virginiana Obedient Plant	1.58	255.240	9.000 OZ 10.800 OZ	360.00 432.00	135,000		
HF966E	✓ Pycnanthemum virginianum Mountain Mint	1.90	306.288	10.800 OZ	270.00	2,376,000		
NA1247E	✓ Ratibida pinnata Yellow Coneflower	4.22	680.640	1.500 LB	90.00	720,000		
PM515R	✓ Rudbeckia hirta Black-eyed Susan	4.22	680.640	1.500 LB	135.00 45.30	2,208,000		
HF963R	✓ Silphium integrifolium Rosin Weed	2.40	387.114	13.650 OZ	109.20	16,380		
LC1410R	✓ Silphium laciniatum Compass Plant	4.22	680.640	1.500 LB	225.00	15,840		
LC1412R78 TG62Y21	✓ Silphium torbenthinaceum Prairie Dock	1.90	306.288	10.800 OZ	162.00	10,800		
MK729R	✓ Solidago graminifolia Grass-leaved Goldenrod	0.40	63.810	2.250 OZ	168.75	787,500		
HF1473R	✓ Solidago nemoralis Old Field Goldenrod	0.79	127.620	4.500 OZ	180.00	1,360,000		
R8337R30 NAA27R70	✓ Solidago rigida Stiff Goldenrod	3.17	510.480	1.125 LB	135.00	738,000		
Totals for FORBS :		100.00%		688.500 OZ 35.531 LB	\$6,153.98	# 18,252,240		
Totals for F525:		100.00%		568.500 OZ 35.531 LB	\$6,153.98	# 18,252,240		

EXHIBITS



BASE MAP DEVELOPED FROM THE
NAPERVILLE, ILLINOIS 7.5 MINUTE
U.S.G.S. TOPOGRAPHIC QUADRANGLE MAP
DATED: 1993



Exhibit A Project Site Location

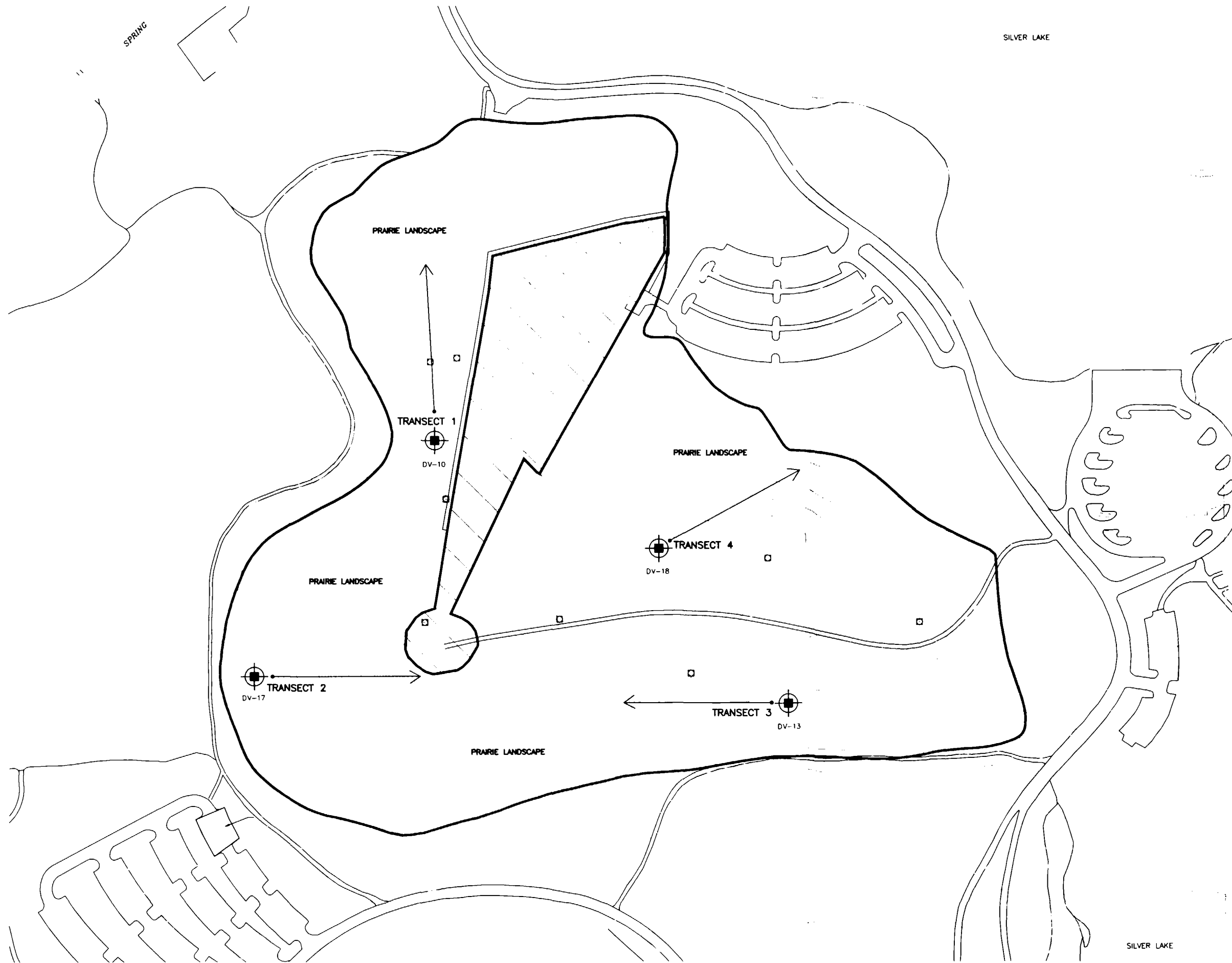
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Date:
January 2002

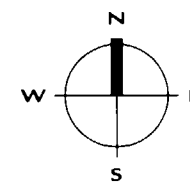
(not to scale)

Project:
Blackwell Landfill Prairie Restoration
Warrenville, Illinois

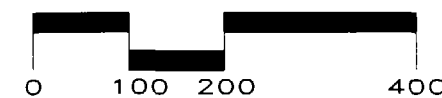
Conservation Design Forum



- LEGEND**
- GAS VENT
 - TRANSECT LINES
 - TOBOGGAN RUN (OUTSIDE OF PROJECT AREA)
 - LEACHATE EXTRACTION WELL
 - PROJECT BOUNDARY



Scale: 1" = 200'



<p>Conservation Design Forum</p> <p>331 West Erie Street Suite 300 Warrenville, Illinois 60555 630.396.2000 phone 630.397.3000 fax</p>	<p>Client: Montgomery Watson Harza 27755 Diehl Road Suite 300 Warrenville, Illinois 60555</p>	<p>Exhibit B Blackwell Landfill Prairie Restoration</p>	<p>Date: Jan 2002 drawn by HQ</p> <p>Revisions:</p>	<p>Project Number: 00005.00</p> <p>1</p>
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PHOTOGRAPHS



Above: Transect 1 vault cover (September 27th, 2001).

Below: View looking north along Transect 1 (September 27th, 2001).



Above: Transect 2 vault cover (September 27th, 2001).

Below: View looking east along Transect 2 (September 27th, 2001).



Above: Transect 3 vault cover (September 27th, 2001).

Below: View looking west along Transect 3 (September 27th, 2001).



Above: Transect 4 vault cover (September 27th, 2001).

Below: View looking northeast along Transect 4 (September 27th, 2001).



Above: Herbicide application (May 1st, 2001).

Below: Drill seeding (May 30th, 2001).



Above: Drill seeding (June 4th, 2001).

Below: Hand seeding & raking steep slopes (June 4th, 2001).



Above: Hydroseeding & mulch application (June 13th, 2001).

Below: Hydroseeding & mulch application (June 13th, 2001).



Above: Watering (July 2001).

Below: Newly germinated seed (July 2001).



Above: Prairie landscape mowing (August 2001).

Below: Prairie landscape mowing (August 2001).